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# Absolute Magnitude

*The Magazine of Science Fiction Adventures*

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MATT 93

# Editorial Notes

by

## Warren Lapine

Welcome to the premiere issue of *Absolute Magnitude, The Magazine of Science Fiction Adventures*. As you may know this is actually our third issue. The first two issues were published under our previous name, *Harsh Mistress, SFA*. So many things have changed here since we decided to change our name that we felt it necessary to start things off with another issue number one. Still, it does seem a bit strange to have the second installment of a serial in the premiere issue of a magazine. This, if nothing else, shows that we are not completely severing ourselves from our past. We still plan to bring you the best technical SF adventures available. In addition to this, we will be running feature interviews with the biggest names in the field, starting this issue with Roger Zelazny. We would also like to welcome Gregory Feeley on board as our book reviewer. While a lot of magazines say they want to bring you new writers very few do anything about it; starting next issue we'll be bringing you a newcomers corner, which will feature the talents of new writers.

We have received many letters from our readers letting us know how much all the fiction in each issue is appreciated. So when we decided to add non-fiction to this magazine we increased the page count; in actuality there is even more fiction in this issue than in our last.

After the second issue of *Harsh Mistress* went to press it became apparent that Kevin Rogers, Tim Ballou, and myself had different directions in mind for the magazine and for our respective careers. As a result of this, Kevin and Tim are no longer on the staff of the magazine. Tim will continue designing the space ships that appear at the end of each story and do an occasional illustration for us, but he is no longer the Art Director. Kevin's fiction may also grace our pages from time to time, but he is no longer a part of the editorial staff. Still, their presence will continue to be felt for several issues. And I do want to take this opportunity to thank them for all that they did to help us get to where we are today and to wish them the best of luck in all their future endeavors.

Kevin Murphy is our new Art Director, as well as the cover artist responsible for the cover on this and our last issue. Stephen Pagel and Brian Murphy are also playing major roles in bringing this magazine to you. Without these three, the premiere issue of *Absolute Magnitude* would not be the quality product that it is.

So, in the tradition of our first two issues, I would invite you to fasten your seatbelts, we are about to blast off to adventure!

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## BEHIND THE EIGHT BALL

by

Daniel Hatch

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The ride up from Fenway Park was brief and uneventful—the most exciting part was the view of the dark cratered landscape of Ceres—and when the cab docked up with the *Robinson* I was already at the lock.

"So long, Heidi," I said.

"Good luck, Billy," she answered. "Bring back some good pictures." Then I cycled through and pulled myself aboard the Asteroid Steel Corp. ion-cruiser.

The entire ship's crew was there to meet me—all three of them. The introductions were brief, but stretched my ability to recall a list of names to the limit.

I smiled a lot. That was a bad reflex—you make the mistake of thinking that if you smile, people will like you. My experience is that few people like a journalist, and they want to use you for something.

But I did want these guys to like me. I was going to spend more than a month with them and during that time my life would depend on them. I learned my basic spacefaring skills back in the corps—more than ten years ago as a volunteer during the Great Phony Space War. I could take zero-G without barfing, and I knew my way around the inside of a spacesuit. But reporters in space were good at typing, editing copy, getting pictures, asking questions, and not much else. None of the important skills—like piloting, space rigging, engine repair, suit maintenance—the things that kept us all alive.

"I'm the pilot, Brad Marshall," said an athletic blond who struck me as incredibly young to be a company man. And I happen to be one of those people who think that thirty eight is not even close to middle-aged.

"This is the engineer, Peter Vandermeer." Pete had a bad case of spaceburn that turned an otherwise baby face into the visage of an old man. His button nose and small chin were belied by the cracks around his eyes. He nodded vigorously, but mumbled his greeting.

"And this is our astrologist, Jim Abdul."

The last member of the crew was a black man, with a broad, flat nose and straight white teeth that he flashed in a warm smile. He wore a blue cap—don't ask me how he kept it on his head, wires I guess—and until he took it off to reveal a wide hairless pate, he looked to be about my age.

"Men, this is Billy Wilson, from the Ceres News Service. He'll be going along with us on this trip," Brad said.

"Did you really ask for this job?" asked the African astrologist. "I can't believe anyone would volunteer."

"I'm afraid I did," I said. "Why? Is there some danger I don't know about?"

"Aren't the ones that you *do* know about bad enough?" Jim Abdul said. "Or do you like the idea of playing an ant on a pool table?"

I smiled. "You're going, aren't you?"

"Yes, but my people always get sent out on jobs like this one," Abdul said, flashing his teeth and narrowing his eyes so that he looked like a Cheshire cat disappearing into the shadows, leaving only a smile behind. "What's your excuse?"

"So do mine," I said, patting the videocam at my waist. "So do mine."

Brad, who looked troubled by the conversation, steered me away from the lock and took me on a tour of the little spacecraft. The ship was built for four men, and the inner compartments ran for twenty meters along the thrust beam, from the control deck at the bow to the engine control space aft. There were a lounge, four sleeping berths, a laboratory and a galley. The tour took about five minutes. We ended up back at the lock, with the engineer and the astrologist still hanging in the air just about where we'd left them.

"You understand pretty much what we're going to be doing, don't you?" the eager young company man asked.

"Pretty much. We'll spend a couple of weeks getting out to 6506 O'Leary, release a lot of equipment, then back off a few thousand klicks and wait. When 7113 Haye comes along and plows into it, you'll be recording the hard data while I take pictures." The steel company would turn around and sell the data as proprietary information, a new twist on their efforts to make a profit out of everything that happened in the asteroid belt. I remember when science was free of charge — along with air and television. Those days were long gone.

"That's it," said the pilot.

"That's right," said the astrologist. "But did they tell you that the collision would release the energy of a hundred megatons of TNT?"

I knew he was trying to scare me. He probably figured I was just some groundchuck who thought space was a great romantic adventure instead of deadly serious work. He probably didn't realize that since the day I'd boosted up from Colorado Springs in a Space Corps Clipper back in '68, I hadn't set foot on Earth. I may not have been a very good spacer, but I was a spacer just the same, just like him and just like the rest of them. Of course, I couldn't tell them that. They'd have to figure it out for themselves.

"A hundred and fifty megatons," I said, correcting him without malice. "Yes they did. That's why I want the pictures."

"I guess you're all ready to go then," he replied without blinking.

"As ready as I'll ever be," I said.

Brad looked around nervously. "Good. As soon as your cab gets out of our orbit, I'll light off the engines, and we'll be on our way. That should give you enough time to stow your gear. Jim, if you'll show Mr. Wilson to his berth...."

For two days, we accelerated softly on a stream of ionized steam, boosting steadily along at a tenth of a G, up to the dizzying pace of 150 kilometers a second—three times as fast as a comet. The ride was smooth and the journey would be short.

I wanted to do interviews with everyone on the trip. Two weeks was time enough to collect all the video I'd need, and those weightless days between one end of the trip and the other could get pretty boring without something to keep busy.

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When I broke out my equipment and began testing it, however, I found I had a problem. Somehow, while packing or unpacking, I'd managed to damage the steadycam mounting. Normally, I would strap the mount to my shoulder like a pirate's parrot. But now it wouldn't hold an image steady, and the picture on my screen would drift slowly upwards.

"Let me see it," Vandermeer said when he saw I was having problems.

I gave him the unit and watched as he plucked a set of tiny screwdrivers and wrenches from a pocket somewhere. He disassembled the mechanism so quickly that I wasn't sure what went where, and for a moment I was afraid it would be even more useless when he was done.

What really got me, though, was the way he let the screws hang in midair while he slipped covers and casings aside, then snatched them before they drifted away on the cabin air currents and reattached them.

"This isn't made for zero-G maintenance," he said when he noticed my wide-eyed reaction to his trick. "A good one would have flyline attaching the screws and the parts so they wouldn't drift away. I just have to be quick, is all."

In a moment, he had the naked skeleton of plastic and electronics laid out, wires snaking around the frame like arteries and ligaments.

"Here it is," the engineer announced shortly. "A sensor on this side came loose. That's easy to fix."

He reassembled the parrot and handed it back to me. The image on the screen was rock steady. "Thanks a lot," I said weakly, feeling that the words were inadequate. I couldn't fix breakfast if it didn't come in a plastic box.

"Don't worry about it. My favor."

"Tell me, Pete, where are you from?"

Vandermeer blushed and wrinkled his brow. "No thanks, Mr. Wilson. No interview today."

"But..." I stammered. This was great. How do you profile someone who doesn't want to do an interview? Maybe I was expecting too much—two favors in one watch, after all.

"Peter's just shy," said Jim Abdul, who'd been floating at the far end of the compartment. I looked at his wide grin, trying to tell if he was being honest or sly. I couldn't. I was sure, however, that Jim Abdul wouldn't be camera shy. That was probably why I wanted to hold off until I had a better sense of who I was dealing with before I did his interview.

I went looking for Brad Marshall instead.

"I graduated from UCLA, class of '69. Played defense on the football team as a senior, then went on to get my M.B.A. from the University of Delaware. I joined the company a few years after the demobilization, when there weren't quite so many people looking for space jobs. I missed out on the war except for what we got back home — you know, videonews and the stuff off the Japanese propaganda satellites.

"It may sound corny, but I'm a company man all the way. Through and through. You've got to pick your team and stick with it, I say. I picked Asteroid Steel. When I've put in my twenty out here in the Belt, I'll go back to Luna or L-Five and open up a store or do something else useful with my company bonds. But in the meantime, what's good for the steel company is good for Brad Marshall."

His grin was too forced and his crew cut made him look ridiculously young. In a few years, maybe if his jowls filled in, he might begin to look serious — but in zero-G that wasn't likely to happen. He was all white bread and mayonnaise, suburban booster of the American Way and all that it used to

stand for. He'd been too young to be caught up in the politics of the war. Probably never questioned why we went after Japan. He just believed it all and went on to live a life untroubled by doubt or uncertainty. I wished that I'd had it that easy.

I'd been caught in the draft and volunteered for the corps. They taught me to breath space and swallow my breakfast twice, and then put me on an ion cruiser and sent me out to Jupiter. By the time we got there, the war was over, but it was another year before they let me out. I stayed in the Belt and went to work for the Ceres News Service just about the time Brad was getting out of college.

But the folks back home would eat him up. He was their image of a space pilot—solid, perpetually young, and dedicated to a higher cause. The video was first-class, even if it was just a dog-and-pony show for the company.

So far I was batting zero when it came to really interesting stuff. Maybe I was just going to have to stick to colliding asteroids for the drama. At least the pictures would be good, even if there wouldn't be any sound.

When I was finished with Brad, I packed up my kit and pulled my way back to the lounge. On my way, I passed Jim Abdul once more.

He flashed his grin, hooked a thumb towards the control deck where Brad remained, and said: "Allah deliver us from the cager young ones."

"The big asteroid is 6506 O'Leary," Brad said as he called up the pictures on the computer's big screen. "It's twenty kilometers in diameter and made mostly of carbonaceous chondritic material. That means it's as dark as coal."

"Or as dark as me," said Jim.

Brad flashed an annoyed look at the astrophysicist and continued. "We call it Eight Ball. The other one, 7113 Hays, is smaller—six klicks. It's mostly rock—forsterite and enstatite with some feldspars. That makes it a little more dense than the Eight Ball and slightly brighter. We're calling that one Cue Ball.

"The big holobrain at Ceres alerted us to the collision years ago, when we ran through a super-integration of all the asteroid and comet orbits to look for potential threats to Earth. They did a smaller program at the turn of the century for the Earth-crossers like Eros and Icarus, but this was the first one where they tried to get everything and include the perturbations from Jupiter and Saturn and the rest of the planets.

"The collision's going to be comparatively small. The relative velocity is lower than average—only about two klicks a second."

"But it will be making a hell of a bang," Jim added.

"The company plan is to document the entire event, start to finish. Our first stop will be Cue Ball, but the procedures will be the same for both asteroids. We'll implant some ground sensors, take some soundings so we have an internal picture before impact, then watch how it deforms during the collision. And we'll leave remote sensors in orbit around each rock to get video and other readings."

"And how far away will we be when they hit?" I asked nervously.

"We figure 20,000 kilometers should be a big enough safety margin," the pilot said.

"I sure hope so," I replied. "The last thing I'd want to do is stick around for a live shot." Jim Abdul narrowed his eyes at me. It was almost as if he were scolding me for uttering

## Behind the Eight Ball

forbidden words. Don't name your fate or you may end up suffering it—an old spacer's superstition. I felt like a jerk for the rest of the watch.

It took us two days to slow the *Robinson* to match vectors with Cue Ball. When we finally came up on it, the little rock resolved itself into a time-scarred piece of cosmic debris, turning once every ten hours. Craters large and small peppered its surface, fault lines and rays of white comet dust providing the only visual relief. There were no mountains or hills, just a lumpy, uneven surface with a faint greenish tint to it.

We hung around in a loosely bound orbit for most of a daywatch. The thing was so small that flushing the toilet might have knocked us loose from its gravitational grip. Brad kept a gentle touch on the verniers as Jim fired the ground probes. The big computer screen maintained a telescopic watch on the surface and showed us a closeup view when they hit.

When the probes were all set, we fired a final missile at Cue Ball and detonated it. Jim let out a long, low whistle as the computers built up a three-dimensional view of the asteroid from the data sent back by the seismic sensors.

In the meantime, Brad released the orbital probes, using a delicate touch once again to make sure they did not break out of orbit to be left behind. Each probe contained a videocam, infrared, radiation and dust sensors, and a transmitter to upload its data to a central relay station—the last and largest of the items to be deposited before we left the vicinity.

Knowing that this rock was going to smash into another in a few days did not make me feel good. My nerves buzzed and my flesh crawled all the time the asteroid was in sight. Once we were a good distance away and it had faded to just a bright star, I felt better, but not for any good reason. In another day, we would have to repeat the experience at Eight Ball.

The trip between the two asteroids took eleven hours—from the end of the evening watch until just before the next day watch. We boosted for six hours, cranking it up to twenty clicks a second. Cue Ball would follow at a tenth that speed, arriving thirty-nine hours after us.

During the passage, I finally did my interview with Jim Abdul. But first I asked Peter Vandermeer what the astrophysicist's story was.

"Didn't you know about him?" he asked.

"Know what?"

"He's in the Brotherhood of Islam. One of the leaders. The company knows it, but there isn't much they can do about it. The Spacefarer's Union is keeping an eye on them. Besides, he's a good scientist. They say he could find platinum in a comet by tasting the tail."

"I guess I'll have to talk to him about it then," I said.

"Just keep me out of it," Vandermeer said. "Don't tell him I let on about his connections with the Brotherhood."

"Don't worry," I said.

I waited a couple of hours before making my move, until Brad had wrapped himself in his sleeping sack and Vandermeer was done with his engine checks. Jim was busy on the control deck, running some kind of program through the main computer. I slipped into the pilot's seat and hooked a leg through the footbrace to hold myself fast.

"Good watch," he said. "Finally getting around to me, are you?"

"I figured I should talk to you before the main event—just in case we aren't around afterwards. I'd be in real trouble if

we were all killed and I didn't get any good quotes from you first."

He laughed, then shut down his program.

"Are you afraid we aren't going to be coming back from this trip?"

"I wasn't until I met you. I still can't figure out whether you've been trying to scare me or just make dark comedy."

"Why would I want to scare you?"

"You tell me."

"I apologize. I'm afraid it's just my contrary nature. Although I do have reason to be suspicious about this mission. Asteroid Steel is not known for its concerns about worker safety. I once saw a smelting operation that went bad. Three men hit by plasma and torn apart instantly in steam explosions. They claimed human error, but I was watching the process. I know better. This is what you call off the record: The managers were trying to speed up the job."

I kept a poker face. It wasn't that I didn't believe him—I'd heard worse stories about the steel company. But I didn't want to lose my objectivity—or let him think that I had.

"It's got nothing to do with your extracurricular activities then?"

"My what?"

"I understand you have some kind of involvement with the Brotherhood of Islam."

His eyes widened and his lips rounded in surprise, then his Cheshire cat smile returned. "You've been talking to Peter, I suppose. Brad wouldn't mention it—company policy. They don't even admit we exist—officially."

"Is it true?"

"Yes. I was once a member of the Brotherhood. Was. Not for years now, though. Are you surprised?"

"Well...you don't look like an extremist or a fanatic or a terrorist. It just seems hard to picture a Black Muslim asteroid scientist."

"As opposed to a white Baptist asteroid scientist?"

I felt my face grow warm with embarrassment. "I mean that—"

"I know what you mean. Tell me something, Billy, what church did you go to when you were young?"

"Congregationalist—for a few years. One of those big white ones with the tall steeples. They're all over New England. Mine was in a little town about sixty clicks out of Boston, on the green."

"I grew up in Louisiana and my folks belonged to a born-again Baptist church. They held services in a pre-fab plastic warehouse that the congregation saved three years to buy. Before I went into the Space Corps, I thought that was only kind of church there was. I learned differently after a while."

Jim told me how he was always in trouble for his first few years in the corps. Never for anything big enough to get him kicked out, but there was always something. He didn't take well to military discipline and he didn't like being given orders. It was a bad attitude to take for a spaceman.

And he told me something of what it was like to be an African in America in the 21st century. It started out like a lecture. I guess he must have given it before. Or maybe he just kept turning the words over and over in his mind in the long hours between rockfalls, polishing it like a fine piece of stone.

"You people think racism is something from the last century, like communism and fascism. I can tell you with strong authority that it is not. And it's not just Louisiana—which still thinks it's part of the 19th century—it's

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everywhere. Political tyranny ended on Earth fifty years ago, but the economic tyranny continues. There are still poor everywhere—invisible, powerless, and oppressed. But America is unique among nations. You see, it has a separate race to assign to the role of being the oppressed. In some ways, that's what's kept your country in the 20th century.

"You look surprised. That's what I said. America is still locked in its past. When Europe overthrew its idols at the end of the 20th century—communism and nationalism—your country had a chance to do the same. But it never did. You just withdrew from the world and turned to space instead. That was why you were so upset when the Japanese began to step on your toes out here. It's all you have left—old myths about America's destiny among the planets and the justice of rewarding the clever with wealth and punishing the slothful with poverty."

"And where does the Brotherhood of Islam come into all this?"

Now the lecture was transformed. It became a sermon. Jim obviously had been more than just a minor member of the Brotherhood. He may have been a teacher, or a preacher, or even one of the top leaders. He was smart enough and sharp enough, and his words were strong enough to move mountains.

"Islam is the spirit of the oppressed. A hundred years ago, the African in America began to realize his role as the oppressed of that society. He saw that America's Christian religion was a religion of the oppressor, of the white man. So he took upon himself the religion of his ancestors before they were transported into bondage by the Christian leaders of America. The problem with your Christianity is that you believe God stopped His work when Jesus walked the Earth. But Allah is the continuing God of history who never stops. Allah is the ceaseless spirit of the oppressed, moving to overthrow idols of history."

He spoke with such strength of spirit that I found myself agreeing with him, deep inside.

"When I found Islam, I was at the edge of a cliff, hanging by my fingertips. Nothing in the white American world of the Space Corps meant anything to me. It was not my world and not my faith. Then a brother found me and gave me the key to my own liberation. Islam teaches us to be disciplined in the struggle against the oppressor, so I became disciplined. It teaches us to work with Allah instead of working against yourself, so I began to work with Allah."

I could believe it. Faith was more than just a word with Jim Abdul. It was a living force.

"While I was active in the Brotherhood, I was a captain of security. I had two hundred brothers under my command—in the corps, on the power satellites, on the moon—ready to do whatever I told them to do on a moment's notice and without question.

"One time I was on leave on Luna, in a spacer's bar, and a couple of white boys from Georgia thought they'd remind me of the days when Africans were property. They tried to lay hands on me. Within two seconds, there were four of my boys behind them and four in front of them. We didn't even have to say a word. That's discipline."

He paused for a breath, and I stepped in with a question that had formed quickly in my mind.

"I find it hard to believe that a man who holds a million megabucks in company bonds can consider himself oppressed. Are you sure you aren't exaggerating a little bit?"

He sighed and wet his lips, but the smile returned. "Americans do not understand what oppression is. You think

it means being locked up in chains or losing the right to speak in public. You don't realize that it's having your brothers and sisters herded into the worst housing, the worst schools, and the worst jobs to save the best for those who oppress them. You don't realize that it includes living a life that is shorter than the life of the man who oppresses you, with more disease and more suffering. You don't realize that it means having more of your babies die than the babies of those who oppress you.

"You only think in terms of individuals—not masses. You think that because I'm wealthy, I'm not oppressed. But Islam teaches us that if one of us is poor, we all are poor. If one of us suffers, we all suffer. And if one of us is not free, we all are slaves. Americans live in a world of lies so bright that you don't even see your own oppression. Look at Asteroid Steel. Even the name is a lie. The company is not concerned with steel—that's just a byproduct. They want the platinum and the palladium that makes them wealthy beyond the dreams of all earthly kings before them. Am I wealthy because I'm given the tiniest of crumbs from a feast that they consume like a wildfire? Or am I not oppressed because my life—my being—is dependent upon their accumulation of astronomical wealth—upon their having?"

Somewhere along the line, I'd had the presence of mind to switch on my recorder, but I was beginning to wonder if any of this stuff would be of any use to me. If I put this interview out over the air, the company would figure we were trying to start Jim's revolution and kick us off of Ceres in a minute. Maybe he was right about oppression after all. If it weren't for the smile and the calm way he described his beliefs, I think I would have been frightened. But he was not at all wild-eyed or excited. He was rational, direct, and clear.

"A revolution is coming, William. You Americans do not understand that. You are trapped by your own history. You think that revolutions are made by dedicated patriots with three-cornered hats who preach freedom and justice. But they are really made by the masses of oppressed who reach a point in their suffering where they have no choice but to seize the moment and rise up.

"It has already been written in the great book of the Lord. Allah's will cannot be denied."

"I don't know, Jim. Predestination is not something I can swallow easily."

"That's because you stopped going to church while you were still young. As I recall, Islam is not the only faith that believed in God's plan. The early Congregationalists like Jonathon Edwards were pretty strong on the subject. We are all sinners in the hands of an angry God, suspended by a slender thread over a fiery pit. I read once about a bridge collapse in colonial days that killed two people—for weeks afterwards, all the church talked about was why God had chosen them."

I just smiled and shook my head.

He went on for a long time, talking about a lot of things. The revolutionary fervor seemed to fade as he switched to tales of African life in the South during the last century. And he told me stories of the Brotherhood's own mythology—stories that he seemed to believe. Stuff about Noah and the Flood, and how afterwards, the races of the world were divided into their separate parts by the Lord. The white men were sent north and the dark men south and angels were appointed to watch over them. The white men turned their backs on their angel, but the men of color followed the advice of theirs, living peacefully in cooperation with one another until the white men came after them.

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That was even more difficult for me to reconcile than the stuff about predestination. How could a man trained in science still accept those ancient myths as truth? Did he really believe all that stuff? Then it struck me that the Old Testament stories of Islam must have sounded just like the stories he had been told in his fundamentalist Baptist church in Louisiana. Maybe that was why it had been easy for him to embrace Islam—underneath it all were the same childhood myths of the Garden of Eden and Noah and the Flood.

"Do I still frighten you, Billy?" he asked after the midwatch had come and most of it had passed.

"I don't know, Jim. If I was sure you believed what you said tonight, I think you might, but I don't think you do. I think you'd like to. Maybe you even did, once. But I think that's why you don't belong to the Brotherhood anymore. I think you stopped believing in them. Or maybe they stopped believing in you."

His smile faded and for a brief moment, a fire burned in his eyes, a fire that seemed fierce enough to consume worlds and bright enough to make me realize he'd never stopped believing for a second. I'd guessed the truth—the Brotherhood must have lost its faith in him. Then it flickered, faded, and grew dim. He grinned.

"And I believe you think too much and believe too little," he said.

We were orbiting Eight Ball, dumping the last of the monitors, when it happened. I had just finished squirting off the last of my stories to Ceres, Brad and Jim were on the control deck handling operations and Pete Vandermeer was ast somewhere playing with the engines.

What surprised me the most was that I heard it. You always worry that it's going to happen when you're asleep, or eating, or making love. You never expect to hear it.

Tap...BAM!

That was all it took. The emergency lanterns came on, and I heard the sound of alarms hooting on the control deck and back in the engineering spaces. I didn't know exactly what had happened, but I knew it wasn't good. With the blood already pooled in my gut from zero-G, the sudden shock made my vision dim and my hands and feet tingle. I took a deep breath and held my nose, then tried to force it out—an old trick for pushing extra oxygen into your bloodstream. It helped a little bit. The waiting was the hard part. It was five minutes before Brad called out to me—it seemed like five hours.

"Billy, we've got a problem. Looks like we've been hit by some rock fragments."

"How bad is it?"

"Pretty bad. The power plant's down. That means we've lost the ion drive."

"Uh-huh," I replied, forcing the air back into my lungs again. "So how are we going to get out of here?"

"That's the bad part. I don't know how."

The next thing I knew, Jim was beside me and there was an oxygen mask strapped over my face. I felt embarrassed, but no one said anything about it.

"At first, I thought they might have been little orbitals, satellites of Eight Ball," Jim said. "But the radar monitors would have caught something like that and given us plenty of warning. Circular velocity at this distance is only two meters a second. These were moving faster than that. After I did some checking, I found they came through the parasol at real high speeds. There were two of them—the first one put a hole in the parasol and the second one came through it and hit the

ship. Pete says they made a real mess of the powerplant. All we've got left are the verniers."

"Can they get us out of here in time?"

Jim shook his head. His smile was gone.

"What are we going to do?"

"Brad's sent a message off to Ceres asking the company for instructions. But I don't know what they can tell us. I'm not sure they're likely to care anyway."

I swallowed hard. I didn't have anyone waiting for me back on Earth. My mother had died years ago. I never knew my father. She said he was a famous reporter and that she'd named me after him. But when I went looking for more information, I found out Billy Wilson was the name of the bar next to the newspaper where she said he'd worked.

But I still didn't relish the idea of dying when two pieces of cosmic trash collided in a few hours.

"How soon will they send us an answer?"

"They're half an hour away—there and back. Add in the time it takes them to make a decision and we may hear from them before the collision...."

As it turned out, they took little more than an hour. Considering what they told us, I'm surprised it took that long.

Brad had a strange look on his face—half disbelief and half shock.

"They want us to finish planting the ground probes and release the relay monitor," he said.

"Yeah? And then what?" asked Jim.

"Then they want us to land on Eight Ball."

"What?" All three of us said it at the same time.

"They want us to land on the asteroid. They said it's bulk should shield us from the impact explosion. They're sending another ship out to rescue us immediately, but in the meantime, they say, the safest place to be is on the surface of the asteroid."

Jim wiped his face with a big black hand that showed white around the edges.

"Do they have the slightest idea what they're asking us to do?"

"Of course they do, Jim," Brad said. "The company doesn't want to see us killed. It makes sense to me. Out here, we'll be sitting ducks for the debris from the collision. Those little orbitals will look like darts in comparison to the barrage we can expect from the big one. Where else should we go?"

"You want to know what I think?" the astrophysicist replied.

"Not particularly," Marshall said.

But Jim ignored him. "I think the company's only concerned about one thing—salvage rights. If this ship lands, then they retain their rights. If we're in orbit, then the ship's up for salvage—and all the data that we collect on the collision with it. That's what this whole trip is about anyway. They want that data to sell on the market to the highest bidder—proprietary science. We both know that's the side of the mission that they don't like to talk about, but there it is. And if we land, they keep title to it all. Isn't that it, Brad?"

Brad frowned, then took on a stern expression.

"First of all, I told you what I think. The company is as concerned about our safety as we are, and this is the best solution. As to the other issue, I don't think we should be discussing company policies in front of the media." Jim opened his mouth to speak, but Brad cut him off. "And I don't want you to discuss it with him later either. I think that you had to say last night was more than sufficient, don't you?"

I felt my face grow warm with embarrassment, then anger—he had no business eavesdropping on our conversation

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last night, no matter how small the ship was. But Jim swallowed his words and turned away, propelling himself towards the control deck. I could almost imagine steam coming out of his nostrils as the rage burned inside him.

I turned to Brad.

"Don't look at me like that, Wilson," he said. "I've been in space long enough to know how the Brotherhood thinks. What he told you last night wasn't even half of it."

He spun head over heels and fishtailed towards the engine spaces.

An hour later, Jim came out of the control deck with fire in his eyes.

"I knew it! Marshall, you land this ship on that asteroid and we're all dead men."

"What's the problem this time, Jim?"

"I just finished the seismic tests. I suspected this before we got here. The Eight Ball is not a rock. It's a pile of chondritic garbage. Look at it — that thing is round. There isn't enough structural strength to give it a shape. It's been hit so many times that the only thing holding it together is gravity. When Cue Ball comes along, the whole thing is going to go to pieces — and we're going to get caught in the middle."

"And what's your alternative? Trust in Allah to save you at the last minute? I'm surprised that you aren't happy. Maybe it's the will of Allah that we all die. Another martyr for Islam. The decision's already been made, Jim. We're landing."

The muscles in Jim's neck twisted, and his jaw worked hard. For a moment, I saw all the anger of the young African from Louisiana who had been so hard to discipline, who was so much his own man that he clung to strange belief from another time and another world. He bit back that anger and clenched his fists as if wrestling with that younger self. There was a pitiful, helpless look to the struggle. No matter which side won, Jim was going to be the loser.

And in thirty-two hours, the rest of us would be losers too.

Jim came to me a few hours later, after a dinner that I couldn't eat.

"Billy, I need your help," he said. His eyes were no longer fierce with anger—and his smile had returned. I knew something important was going on, I just didn't know what.

"What is it?"

"I have an idea. I talked it over with Pete, and he thinks it might work. I'm just afraid that Brad isn't going to listen to me anymore. I don't blame him, but this is important. I think I've figured out a way for us to survive this, and I want you to help me talk him into it."

"I don't know, Jim. He seems pretty determined to land this ship on Eight Ball like he's been told."

"I know. That's part of my plan. But there's more to it than that. Let me explain...."

"This had better be good," Brad said.

"He's convinced me and Peter," I told him. "As an objective third party who doesn't want to see his butt smashed to pieces, I would strongly advise you to hear him out."

"Go ahead."

Jim swallowed hard and put on his most serious look. He pulled off his cap and wiped his naked head. "It took me a while to figure this out, but bear with me," he said. "The company doesn't know this, but there is a chance for us to survive if we land on Eight Ball. The important question is where do we land? Tell me, Brad, where did you plan to put down?"

"Somewhere near one of the poles, I figured. When those orbitals hit the ship, they put a hole in the RCS fuel tanks. All we have left to maneuver on are the verniers—and we'll have to burn them for fifteen minutes to break orbit. If we're lucky, they won't overheat and blow us up before we land. Eight Ball's got a six-hour spin. That means the equator's moving way too fast for us to match vectors before we land. The poles are the only place we can put down in one piece."

"That's what I figured. The only problem is that if we stay near the poles, we'll all be killed. There's only one place on Eight Ball that's going to be safe when Cue Ball hits and that's the point opposite the impact — about ten degrees south of the equator. The shock wave from the impact is going to be run straight through the asteroid, and when it hits the far side it's going to knock a piece off. By my calculations, it's going to come flying out of there at three times Eight Ball's escape velocity.

"We only have one small problem—the nearest pole is still eight kilometers away from there."

Brad rocked back and bounced against the wall. "So what? That's no help, Jim. Even if we suit up and walk to the safe point, there's no way we can last until the rescue ship arrives. You're talking about two weeks, not twelve hours—and twelve hours is all we'll last in suits."

"I know. That's why we have to move the ship from the pole to the safety point."

"Right. And how do we do that? We're going to use up the verniers just landing this tub."

Jim's Cheshire-cat smile appeared, broader than ever, his eyes lighting up with it.

"We carry it."

I didn't like wearing a spacesuit. Inside the plastic and metal cocoon, I felt totally isolated, completely cut off from the other three crewmembers. And more than anything else in the world, I wanted to maintain some kind of close human contact during the few hours of certain life that remained to me.

Instead, I trudged along on ground that reminded me of a cinder running track or an old piece of crumbled pavement, the sound of my own labored breath echoing in my ears.

The surface of Eight Ball was as black as night, darker up close than it had been from space. And now that night had fallen, it was even worse. The regolith swallowed up the glare of the helmet lights and gave back nothing.

Jim had told me before we suited up that you could tell that the asteroid had been knocked around a lot by the way the grainy pieces of black chondritic regolith settled in the craters. Minigravity wasn't enough to do that — only the constant impact of large and small rocks over a couple billion years could sift the soil so smoothly.

The routine we were forced to endure reminded me of something from Greek mythology, sort of like Sisyphus — the Titan who had to keep pushing a rock up a steeper and steeper slope, only to have it roll down again before he reached the top.

First we had to lift the hull of the *Robinson* off the ground. That was no problem physically. In the feather-light grip of Eight Ball, it only weighed twenty-eight kilograms. But it's mass was still more than fifty tons — even with dry fuel tanks. Peter had suggested detaching the engines and power plant, but it would have taken too long. When we landed a kilometer south of the pole, we only had twelve hours left before impact.

"All right everyone, heave," Peter commanded over the commnet.

## Behind the Eight Ball

I pulled against the braces where Peter had positioned me, straining for a minute or two to get the mass going. As soon as it began to clear the ground, Peter called out again.

"Hold off. Stop pulling, or the ship will start bouncing along the surface — and us with it."

After a few minutes of pushing and pulling, we finally got a good grip on the behemoth. Then Peter gave the next command: "Forward, ho!"

We started to walk with it. It reminded me of the old keelboats that used to float along the Ohio River in the early days of colonial America. The boatmen used long poles to push a barge that probably massed about as much as the *Robinson* did. At least we didn't have currents and mud to worry about.

Once moving, we carried the ship for as long as we could stand it. The shock on my legs wasn't bad, but the strain from trying to keep my balance had me sweating and shaking after only an hour. The only good thing about it was that the extra body heat was pumped down into my boots to keep the frozen ground from sapping my strength.

We had to stop a lot. Not just from the strain, but to check our bearings. Our destination was about eight clicks from the spot where we landed, as Jim had said, but not along a straight line. There were craters and boulders and dust fields to avoid. And a few times along the way, I listened to Jim and Brad talking, trying to figure out the route that Jim had marked on his laptop. Brad would look up at the stars, and Jim would leap skywards for a long look at the terrain.

Each time, my heart seemed to stop beating while our lives hung in suspense, but each time we would pick up the ponderous mass of the ion cruiser and carry it another few hundred meters.

We broke for a long time halfway along, just after the sun came up, to recharge our suits.

"We're making at least a kilometer an hour while we're carrying the ship," Jim announced once we had caught our breath.

"Yeah, but with all the breaks and delays, we may not be able to make it," Brad replied.

"I don't know about you, but I do not want to carry this ship another meter," I said. "My whole body aches, and my legs are knotted up in cramps. If my heart doesn't give out before we make it, I won't know why."

"Cheer up," Jim said. "Think about the story you'll have for your editors."

"Right now, I'd gladly trade places with any one of them—and trade my space bonds in for the privilege."

The truth was that I'd grown more nervous every hour. We didn't have much of a margin for error. And the nearer our destination, the more that margin shrank....

But finally, after eleven hours of backbreaking torture and sheer terror, Jim called out on the commnet: "Hold up! We're here!"

In a way, I was glad it had taken us so long. It meant we only had to wait an hour for the end to come.

After the grueling exercise we became bold and giddy.

"So what do you think, Jim? Was the company right or what?" Brad said. "They knew we'd figure a way out of this they left it to our own initiative."

"The company be damned," Jim replied. "We're here because of the Lord's good grace. If we survive, it will because He wills it. Tell me, Billy, did you forget to take pictures of us carrying this thing?"

"Not at all. I even remembered to put a disk in the videocam. In fact, you'd better watch what you say, because the camera's on right now."

"In that case, you'd better edit out my remark a moment ago about the company. I still have a few years left before I qualify for a full pension—company bonds or no."

Even Peter Vandermeer broke out in a laugh that sounded creaky from disuse.

As the minutes slipped away and the moment of impact grew closer, Jim began working at the controls of the main computer. After a moment, he drifted over in the minigravity and sat beside me.

"You should plug your camera into the computer feed now if you want to get the best view of the event. I've got one of the orbital monitors patched in. You'll see the picture on the main screen."

He punched in the commands and suddenly the meter-wide screen came to life, the dark circle of Eight Ball set against a starry sky. Even in my exhausted and mindless state, I mustered the strength to focus on the image and scrambled to connect the fiber from my camera to the appropriate jack.

"You'll see Cue Ball in the upper right hand corner," Jim said. I watched for a long time before anything happened. Then I gasped as the other asteroid crept onto the screen, a small grey disk that grew perceptibly larger as time went on.

While we were watching, Peter appeared from the engine room, clutching a spool of wire and a handful of tools. "Never mind sitting around watching the video," he said. "We've still got work to do."

He wanted us to reinforce the structure of the ship by rigging the wire around the interior. He handed out wire cutters, pliers, and fittings for splicing the ends, then pointed out what he meant. "Run it from stanchion to stanchion, then use this bar to take up the slack and put some tension on it. Keep going until you run out."

"Us?" Brad asked. "What are you going to do?"

"I'm going to see if I can anchor us better outside," he said, heading back to the engine room. "I've got more wire and a few rocket-spikes. We've got at least half an hour."

So we went to work, tying the inside of the ship up with wire, fraying our fingers until they were bloody, hoping against hope that it would be enough.

"Ten minutes," Brad announced after what seemed like forever. "Where's Pete?"

"Still out there," Jim said.

"Call him back in," Brad said, looking up at the screen. Cue Ball moved with infinite slowness, growing larger and larger as the minutes ticked off. "Where are we on that thing?" he asked. Jim pointed to a dark spot on the disk of Eight Ball.

"Does that mean we won't see the impact?"

"We'll see enough of it. I could switch to another monitor, but the flare will be too bright. The filters will shut out the image from a direct view."

"How soon will we know if we've survived?" I asked.

"The shock wave will travel about a hundred meters per second, so we'll get a little more than three minutes. Long enough to know it's coming," he said, flashing his bright white teeth.

The gap between the two asteroids narrowed slowly and steadily. I began to fret, worrying about Peter. I wasn't alone. Brad asked again what had happened to him.

We all fell silent as the final moment approached. Brad mumbled a countdown at thirty seconds, but stopped before

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reaching twenty-five....

The screen turned white!

For a few seconds there was no image, then the brightness faded, revealing a broad splash of glowing plasma rising from the surface of Eight Ball. Cue Ball was gone.

"Where's the other \_\_\_\_"

"It rebounded away from the monitor," Jim said quickly. "It's still there, but on the other side of Eight Ball."

"Where the hell is Peter?" Brad asked for a third time.

Suddenly the space-suited figure of the engineer careened off the wall as he pushed himself up the passageway from the mid-deck airlock. He bounced off the bulkhead in front of me and became tangled in the web of wire we had strung.

The windows of the *Robinson* grew bright in the direction of the impact as the plasma cloud climbed above the horizon.

Jim fiddled with the computer controls and suddenly the image on the screen lurched into a closeup view of Eight Ball. What I saw was terrifying.

Geyers of dust and explosions of rock and fragments of asteroid, flying out from the surface. Great fault lines opened up. Spinning chunks of black regolith were knocked into space. The line of destruction swept across the tiny globe, moving inexorably towards us.

I looked up at Peter and saw his face through his helmet, straining at the effort of untangling himself. I reached down to unbuckle the harness from my seat, but he put out an arm to stop me.

Jim switched cameras, shifted the viewpoint on the computer screen. "That's us in the middle," he said.

I didn't know if I wanted to watch. I looked out the window just in time to see a cloud of black dust launched skywards. I turned my attention back to the computer screen.

"Brace yourselves," Jim said.

I gripped the arms of my seat. The sound of tearing rock and regolith cut through the compartment and then —

KERBLAM!

I felt like I'd been kicked in the butt and had my head smashed against the ceiling. The back of my neck hurt and my spine felt twisted. The lights went out and were replaced by emergency lanterns. The image on the main computer screen died.

Peter's body was yanked loose from the cables and bounced off the wall. He bounced a second time off the opposite side of the ship and slid aft until he was caught up in a second tangle of wire.

I strained my ears for the telltale whistle of air escaping from cracks in the hull, but there were none. Then I called out to the others to see if my ears still worked and discovered I couldn't hear the sound of my own voice.

Then the lights returned and the computer screen came back to life.

There in the middle of the image was a single chunk of asteroidal crust a few hundred meters wide knocked free from Eight Ball. We were on it.

Peter tipped his head up to see the screen, then waved his hand and stuck up his thumb.

It was a long two weeks. We were cold and tired when the rescue ship found us. It was a bigger ship than the *Robinson*—a twenty-man cruiser with enough room for all of us and enough push to bring the smaller vessel back to Ceres with it.

There was more privacy aboard the new ship, and we had a few days before we got back, I took advantage of it to talk to Jim Abdul one last time.

"So I guess you were wrong about the book of the Lord," I said.

He smiled and laughed. "If Allah had wanted you to die, he wouldn't have put me on the *Robinson*, would he?"

"I guess that's one way of looking at it. You know, Jim, I made a recording of that long talk we had the night before we reached Eight Ball. I want you to have the disk. I thought about it a long time, but I couldn't think of a good way to work it into my story. Before the accident, I thought that was going to be the main hook. But afterwards—well, maybe the Belt isn't ready for a Brother of Islam as a big hero."

"So you want to help keep the lie alive."

"Wait a minute, Jim. I'm trying to do this to help you. You know what the company would do to you if this went out on the news satellites. I'm trying to pay you back for saving my life."

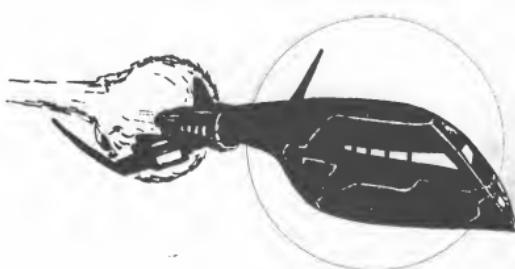
"Then say so, Billy. Don't pretend you have some other reason."

"I'm not pretending. The truth is, what you believe is your business. It might make good fiction, but it doesn't fit into the news. Trust me on that."

"I trust you," he said.

"Good luck and stay out of trouble."

"Allah be with you," he replied as I left his berth. The last things I saw as I drifted down the passageway were his fiery eyes and that big Cheshire-cat smile.



## CHIMERAES AND SEQUELAE

by

Gregory Feeley

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**Crashlander** by Larry Niven  
Del Rey Books, 281 pp., \$4.99

Crashlander is the first solo book by Larry Niven to contain any significant amount of new material in seven years. Comprising the four original stories of Beowulf Shaeffer from the mid-sixties, plus 1975's "The Borderland of Sol" (written at a time when Niven believed that he was wrapping up the Known Space series), a new novella, "Procrustes," and interstitial material, the new fiction amounts to about a hundred pages, not a great deal for the wait. This new material constitutes, moreover, fiction of a decidedly odd sort: an ingenious attempt to shoehorn the Known Space universe, whose particulars were mostly set forth by 1967, into a form that can be reconciled with the unforeseen technological advances of the quarter century since. The result is entertaining, interesting as a formal exercise, and foredoomed.

The framing material is straightforward. Beowulf Shaeffer, living with his wife on the colony world of Fafnir, runs into Ander Smittarashed, a former associate from Earth. Shaeffer had fled Earth, for reasons the reader does not know, and fears (rightly, it proves) that Smittarashed has come looking for him. Sending his wife and child fleeing ahead of him to another world, Shaeffer engages Smittarashed in a long evening's conversation, hoping to learn what Smittarashed knows while giving up as little of his own information as possible. He relates—one, two, three—his five famous adventures among the Puppeteers, Outlanders, and odd stellar formations of Known Space; and the texts of the celebrated novelettes fall neatly into place.

The interstitial material allows Niven to show Shaeffer and Smittarashed playing cat-and-mouse, as well as commenting on Shaeffer's adventures in light of the developments that had overtaken Known Space in the dozen years since. (This is where Niven attempts to account for the future presented in his 1966-68 stories in light of what has overtaken our world in the

decade since. Most of the retrofits prove to be of the Rube Goldberg variety: the eponymous anomaly in "Neutron Star," described in the text as being the "first neutron star ever found, and so far the only" is rather lamely explained: Beowulf Shaeffer meant of course to say "the first old, cold neutron star," he now tells us sheepishly.) With the final story, the framing device merges with the inset material, and the book ends rather neatly. What had run for 200 pages as a jiggery-pokery attempt to patch quantum physics, black holes, and nanotechnology into the fictional universe of a previous generation now becomes a smooth and well-crafted narrative, which tosses several balls into the air, deals with them deftly while still producing a nasty surprise in the closing pages, then ends on a nicely disquieting note. It is really very well done.

Whether it holds together with the other stories in the Known Space series is another matter. Like Asimov before him, Niven has been making Chimerae, which we can define as a return to an old science fiction series, decades after it has been rendered scientifically and stylistically obsolete, in an attempt to make it compatible with present-day SF standards through sheer effort and virtuosity. As an attempt to overcome chronology, to create a new tapestry that can be read in terms of internal chronology (rather than in terms of composition), this constitutes what Harold Bloom has called a *Lie Against Time*—a strenuous effort to deny the force of mortality, which may be heroically undertaken, and yield great things, but will always, ultimately, fail. One cannot slip new future technologies into interstices of an old series in such a way as to make it seem they lie in the background of the original stories; one cannot mimic one's old style (Niven does not even try: Beowulf Shaeffer no longer says "Yah," as he did in the stories of the sixties—and as the protagonists of most Niven stories in the sixties did; instead he says "Stet," a trait he shares with other Niven characters from recent books). A chimera is itself a fiction; and like all fictions from Defoe onward, it

can impress us with its skill but cannot fool us into thinking it fact.

Niven's stories have always found their emotional loci in the decade in which they were written, irrespective of their internal chronology. The original stories of Beowulf Shaeffer, tourist in Known Space, are redolent of the mid-sixties, when "Yankee, Go Home" was not so widely heard and the American dollar took one far; while the tales of Gil Hamilton (written in the mid-seventies) show us a future extrapolated from upbeat expectations about the potential of the upscale urban shopping mall. Over the past decade Niven seems to have converted himself into a successful franchise, and the small amount of solo fiction he has published has almost entirely been sequels to earlier works, dark stories that leave their protagonists trapped and aware that a golden age of expansive youth is coming now to an end.

I am left with a few remaining quibbles. In "Procrustes," Shaeffer awakes in an autodoc after experiencing recurrent dreams of having been decapitated to find himself alone on an island with a headless skeleton wearing his clothes. The mystery of what happened does not include what befell Shaeffer—we know that he somehow suffered bheading and had a new body grown for him—but when we do learn the events leading up to this, it turns out that Shaeffer could not have remembered being decapitated: the sequence of events ran so to preclude it. The memories of having his head blown off and bouncing on the ground make a good narrative hook, but don't fit the actual story.

In the same way, a suspenseful detail on page 3 (when Shaeffer tells his wife that he saw someone from the past, she cries in alarm, "Not her. Tell me it's not her") turns out to be a red herring. At book's end, we know who it was that Shaeffer's wife referred to, but we also know that she could not have entertained any genuine fears on that matter. It is a loose detail in an assembly designed to fit perfectly, like the flapping shoelace of a man in formal evening attire.

I would recommend *Crashlander*

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warmly to anyone who enjoys Niven's work, just as I would recommend "Madness Has Its Place," a 1990 sequel to the 1968 story "The Warriors" that is also a chimera (the characters say "Stel" and make references to "vaporware"), even though there is no way to read the two stories without being acutely aware of the quarter century separating their composition. But anyone new to Niven who sets about to read his Known Space stories "in order" will soon realize that their real order is that of bibliographical, not internal, chronology.

**Furious Gulf** by Gregory Benford  
Bantam Books, 290 pp., \$22.95

Gregory Benford's *Furious Gulf* is also the latest installment of a series that spans decades, although Benford is not returning to old ground but rather continuing a tale that has occupied him since the early 1970s. In *The Ocean of Night* (1977) began the sequence, which continued with *Across the Sea of Suns* (1984), *Great Sky River* (1987), and *Tides of Light* (1989). (*Great Sky River* was originally announced as *On the Great Sky River*, and one wonders why Benford decided to drop the prepositions from his titles.) Now called the "Galactic Center" series, the five novels (with a concluding volume yet to come) have been issued in a uniform format by Bantam that makes them look much more of a piece than they actually are.

In *The Ocean of Night* recounted the discovery of an ancient starfaring civilization, mechanical rather than biological, that sends a probe into the solar system during the early years of the twenty-first century. Nigel Walmsley, an astronaut who is on hand for an implausible amount of the action, provides a focus for the novel, which ends with the intimation that a strike force of the machine civilization (which regards "fragile organic life" as a threat) is on its way to Earth. In *Across the Sea of Suns*, the Earth is invaded by tailored biological creatures, while a starship, its crew including the aging Nigel Walmsley, explores the nearer stars for signs of organic or mechanical life. At the novel's end, the Earth's biosphere faces eventual destruction, while Nigel Walmsley, whose crewmates have nearly destroyed the mission through failure to listen to him, takes command and leads the crew to storm an alien ship and head for the center of the galaxy.

With the next volume, the series has

undergone a major discontinuity. *Great Sky River* jumps 70,000 years into the future, where a human civilization near the center of the galaxy has been slowly reduced to near barbarism by repeated onslaughts of the remorseless Mechs. Family Bishop, a tribe of nomads who flee across the landscape of a ruined world wearing high-tech bodysuits they can no longer build or properly service, are the hunted remnants of a culture that once inhabited great arcologies in space, then later great cities on planetary surfaces. By the end of the novel, Killeen, a middle-aged member of Family Bishop with no evident prospects, has (like Nigel Walmsley before him) risen to leadership of his tribe, and (again like Walmsley) commanded a Mech starship and lit out with his colleagues, now his followers, for the galactic center.

One of the irritating aspects of Benford's novels is his unabashed partisanship for his protagonists, whose pettish and egocentric behavior consistently gets them promoted instead of killed. Walmsley's and Killeen's opponents invariably prove to be fools, for whom Benford arranges fatal mishaps, usually humiliating ones. This has the effect of significantly diminishing the reader's pleasure in following the unfolding action: one of the pleasures of fiction—SF in particular—is that of watching events collide and give rise to other events, in a way that (if the author is good) can persuasively model the actual complex causality of the universe. This pleasure is vitiated directly the reader realizes that the author has fixed the fight.

With *Furious Gulf*, Killeen and his crew have reached the galactic core (the previous book, *Tides of Light*, was largely devoted to their travels), where they discover that they are not the last remnant of human civilization. In the ergosphere of the black hole at the galactic center, a region of convoluted spacetime called the Wedge has permitted a refuge for a civilization that seems to have held the mechs at bay. Family Bishop finds save haven with them, only to discover that the mechs have infiltrated the Wedge after all. The novel ends with Killeen's son Toby being discovered by Nigel Walmsley and assured into a kind of sanctuary.

Like *Tides of Light*, *Furious Gulf* is essentially a transitional work, and too little happens to give it the unity and completion of a stand-alone novel. In the last chapters, the point of view shifts to Killeen, who seems to take up the role as

the Benford hero in the next volume. Various hints suggest that Killeen will play some vital role in the decisive struggle to come—both the mechs and some mysterious once-human entities take an unusual interest in him—

*Furious Gulf* combines the two themes that recur throughout Benford's work: physical immortality, and the relationship between fathers and sons. The return of Nigel Walmsley (predicted by this reviewer a few years ago) continues a pattern of Benford's heroes evading human mortality, which overtakes only lesser men. The conflict between Killeen and Toby, the suggestion that a mysterious figure named Abraham, who holds some important secret, will prove to be a direct ancestor, and the likelihood that Toby and Killeen will prove to be descended from Nigel Walmsley are all consistent with Benford's remarkably narrow vision of human relationships, which essentially consist of the conflict between fathers and sons. (Killeen's lover, who was killed at the end of the last volume was electronically reincarnated—more immortality—and installed into Toby's sensuim, but Toby eventually had to expunge her from his system in order to retain personal autonomy. The women in Benford's novels rarely come to good ends.)

The final novel of the sequence, which Benford promises for 1995, prove better upon which to judge Benford's achievement than this inconclusive volume. But Benford's books over the past dozen years have tended to replay the same essential scenarios, over differing backgrounds, and it may be that the author has lost his ability to surprise us.

**Love & Sleep** by John Crowley  
Bantam Books, 504 pp., \$21.95

*Love & Sleep*, John Crowley's first novel in seven years, continues his exploration of esoteric knowledge, the nature of stories, and "the secret history of the world" that was begun in his extraordinary novel *Aegypt*. The second volume in a quartet of novels, *Love & Sleep* again takes up the story of Pierce Moffett, a young academic who has "lost his vocation" and has moved to the Faraway Hills west of New York City to write his book on the persistence of remnants from the Renaissance system of hermetic magic in popular culture. While Pierce muses on why a pyramid

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surmounted by an eye adorns the back of the dollar bill and why the week has seven days and not five or nine, the topography of Aegypt—a land of secret wisdom, where Magic can actually work and humans communicate with celestial Archons and angels—slowly takes shape around him.

"Once, the world was not as it has since become," Crowley's story begins, and this notion, which Pierce finds attractive without quite believing it, echoes throughout the novel. The Renaissance Neoplatonists of the late sixteenth century believed that an age of the world was coming to an end, with a strange new one about to begin; and the members of Pierce's generation, growing to adulthood in the ingenuous sixties, believed the same of their own era. No longer in his twenties, Pierce seeks to redeem what now seems wasted time by the alchemy of his book, but finds himself beguiled by some of its more arcane conceits, which seem to find validation in the pattern of coincidences evident in his own past and present life.

The mystical land of Aegypt kept its hold on Renaissance thinkers because the historical Egypt was largely unknown to them, but "Even when the real Egypt came to light again, the tombs broken open and the language read, the other country had persisted, though becoming a story only, a story Pierce had come upon in his boyhood and later forgot. . . . the story he was still inside of, it seemed, inescapably."

Although *Love & Sleep* is filled with metaphysical speculation and texts-within-texts (much of the book comprises chapters of a forgotten novelist's unfinished last book, a strange story about Giordano Bruno and Renaissance magic that Pierce found while inventorying the author's estate), it remains a proper, even old-fashioned novel, and Crowley brings considerable skill to his evocation of imaginary (and real) places. The Faraways, a bucolic region somewhere near the point where New York, New Jersey, and Pennsylvania meet (Crowley slyly never tells us in which state it actually lies), is vividly imagined, and Crowley's portrait of the town of Blackbury Jams, with the Blackbury River winding through it and Mount Whirlig rising above the hills like a sacred site, manages to attain the specificity and texture of a real place.

And what happens during the course of the novel? An elderly character dies; a child falls gravely ill. Pierce, discovering to his disquiet the extent of his

continuing infatuation with a drug dealer with whom he once lived, eventually begins another affair, with an emotionally unstable woman ("The conviction came to him, he seemed now to have evidence enough for it, that this Rose was a weirdo") whose potential to scar his heart he realizes only too late.

Other characters, whose lives underwent upheavals in the previous volume (or may in the next), see a year pass without memorable outward incident, although the vivid and precise language with which Crowley evokes everyday life (Pierce, startled by a ringing phone, "almost expected when it rang again to see it rattle in its cradle, like phones in cartoons"; while the occupants of a hospital waiting room, "Private as their griefs were . . . shared Kleenex and magazines, asked careful questions, sat fanny by fanny in the fiberglass chairs") creates an almost heartbreaking clarity.

"What is the one thing we inherit from the past which still retains the powers it once had?" This is the question Pierce asks himself, a question he feels he must answer at the end of his book. And by the novel's end he has his answer, although it brings him more grief than he feels he can bear.

In the final chapters, a great wind rises and blows through the Faraways and lives of all the characters, even as the wind that blew the Spanish Armada off course gusts through the novel Pierce is reading. With this half-realistic, half-magical touch, Crowley knits together the two halves of his novel and ends it with a note of satisfying resolution, while yet managing to keep matters up in the air. It is a bravura technical feat, and a superb ending for a strikingly original and affecting novel.

### Calde of the Long Sun by Gene Wolfe

Tor, 384 pp., \$22.95

Calde of the Long Sun, third volume in Gene Wolfe's extravagant series about the hollow generation ship Whorl, begins with Patera Silk being returned in triumph to his native city of Viron after much of the civil guard has gone over to his unintended insurgency, and ends a few days later with his supporters in control of the city. This is perhaps not sufficient narrative grist for a long novel, and Wolfe does seem to be wallowing the seventh-inning malaise common to most series that run past three volumes.

Last year's *Nightside the Long Sun*,

now available in paperback, and *Lake of the Long Sun* bring to vivid life the world of the Whorl, an asteroid-sized starship whose inner surface, comprising thousands of square miles, is threaded by the Long Sun, which is shaped like a fluorescent tube and gives semblance of day and night by means of a rotating shade. Three hundred years into a journey that has been forgotten by the pre-technological populace (whose understanding of cosmology and history has been obscured by the self-deification of the ship's founder and his family), the Long Sun is burning hotter, causing drought and destroying crops, and Patera Silk, young augur for the state religion, receives a message from God—not one of the Nine official gods, but the real one.

The intrigue into which Patera Silk finds himself—after a god appears in the "Divine Window" of his church, he becomes popular figure, with "Silk for Calde" appearing chalked on walls—escalates into uprising and insurrection without his intercession, and by the end of the second book the Ayuntamiento (the governing body of Viron, which killed the previous Calde and banished the office) is seeking his death. Numerous plot strands have ramified by the third volume, and most get an extra twist or two in the course of the story. But after nearly 400 pages, we do not have sufficient sense of closure to feel that an entire novel has been vouchsafed us.

Worse, several of Wolfe's crotchetts are given extended airings. Wolfe's female characters have lately shown a distressing tendency to lose their clothes, and seem untroubled about recovering them. (The reason given for Chenille's disinclination to reclothe herself, during the many chapters she spends in a cold, damp tunnel, is sunburn.) In addition, Wolfe seems to have become fascinated with characters who represent something he dislikes, such as the oily religious functionary Incus. Wolfe deals with this by adding volubility to Incus's sins, and then putting him onstage, a lot. The effect is not unlike having to listen to a colleague go on at repeated length about someone he dislikes.

But the major problem with the series—present in the earlier volumes, although to a lesser extent—is its talkiness. Although there are scenes of exciting action (a prison being stormed; a gunship opening fire over the city) they are described with Wolfe's usual briskness, while the scenes where people stop in their dank tunnel or luxurious

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villa and talk out all ramifications of the situation frequently go on for more than a dozen pages. The percentage of pages given over entirely to dialogue rivals late Heinlein; and the reader realizes, with bewilderment, that he is experiencing tedium, a reaction to Wolfe he has never previously had.

The first three Long Sun novels are, cumulatively, longer than the first three volumes of *The Book of the New Sun*, and seem less eventful and complex. This is a disquieting development. I look forward to the concluding volume, and hope that Wolfe pulls his threads together with a confident hand.

**Half the Day is Night** by Maureen F. McHugh  
Tor Books, 352 pp., \$21.95

Maureen McHugh's 1992 *China Mountain Zhang* was such an auspicious work that it is painful to have to report that her new novel is a serious disappointment. Set in an underwater republic of Caribe sometimes in the next century, McHugh's story encompasses financial intrigue, terrorism, and takes the reader on a tour from the oxygen-rich upper levels of the privileged to the dank levels of the underemployed and the underclass, but she never manages to invest it with real life.

The novel's protagonists are Mayla Ling, a young executive at the bank her grandfather founded, and David Dai, a Frenchman whom she hires as her driver. Because David is a veteran of various African colonial wars, hiring him reduces Mayla's insurance premiums, although he has no experiences in the security service and is not expected to provide any. Because David is unfamiliar with Caribe, the early chapters are presented mostly through his point of view.

Caribe, despite the high technology that created it, is a corrupt and backward police state, whose President-for-life squanders international loans and permits the republic's resources to be largely consumed by a financier class that arrogates the dome's well-ventilated regions for its business district and private residences. The local police and Les Tontons, the security forces, are vicious and hated, and exist only to protect the upper class and enrich themselves.

When Mayla attends the funeral of a banking colleague killed by terrorists, her photograph in a newspaper brings her to the attention of La Mano de Dios, a

socialist revolutionary movement that has been carrying out bombing attacks on politicians. Although Mayla cannot imagine what she has to do with the country's political order, the insurgents attempt to recruit David, and when he rebuffs and reports them, they blow up her house.

Because David (who got Mayla's household out alive, but has no stomach for the violence rising around him) leaves without giving notice, he comes under the suspicion of the police, who are disinclined to consider the implausibility of his involvement. When Mayla, who has meanwhile resigned her job after a bank with better government connections takes hers over, attempts to obtain an exit visa, she is denied without explanation. Imagining that she has become a police target as well, Mayla empties her bank account and disappears into Caribe's lower levels.

The novel then takes us on a tour of the underside of Caribe's capital city, which we have already glimpsed through David's point of view. By this time, however, the implausibility of McHugh's goings-on had eroded most of this reader's interest. Mayla Ling is a member of the ruling class and her driver a trusted servant, and the idea that the police might decide to victimize them is never made remotely plausible. (McHugh offers a few half-hearted explanations, such as the possibility that the police are simply behaving irrationally. Since we must already conclude that the insurgents are behaving irrationally in targeting Mayla—who is extremely small fry—this solution leaves us with an idiot plot par excellence. Another possibility, which Mayla briefly considers, is that the police are angry with her for being reluctant to substantiate an account of an attack that she did not herself see. But this is as logically flawed as the police deciding to blame David because he has left himself vulnerable to it: if the police are autonomous forces, sufficiently beyond the control of the upper class that they can persecute its members at will, then they manifestly are not bound by legal considerations, and do not require Mayla's signature on a report or a tidy solution to every case on their files.)

What McHugh requires is a pair of protagonists who possess sufficient access to Caribe's ruling class to be able to serve as point-of-view characters in a tour of the top level of Caribbean life, but who could plausibly find themselves in trouble and have to flee downward into the

depths. Mayla Ling and David Dai are simply inadequate for this purpose, and McHugh seems fitfully aware of this. Because their problems do not seem real, the various small digressions in their story lines—David testing out a virtual reality arcade that he ducks into to avoid the police; Mayla at one point in her unhappiness going to a voudoun ceremony—are divorced from any narrative urgency, and seem artificial set pieces.

The last hundred pages of this long novel are devoted to Mayla and David finding a way to buy fake papers with Mayla's money and get onto a sub to Miami. Neither has greatly changed as a person, and the portrait of Caribe remains sketchy (we don't know its population, and only scraps about the republic's life support and economic base) and unconvincing. It is a book that ends without having given us a reason for existing.

*China Mountain Zhang* was a compelling novel both for its characterization and its unusual venue. *Half the Day Is Night* is bland on both scores, a basic underwater city novel with an unreflective privileged protagonist. And unlike McHugh's novel, it is neither concise and colorful in its style nor interesting in its structure.

I would have liked to enjoy *Half the Moon Is Night*, but McHugh seems to have suffered a decided sophomore's slump. I hope her next novel is better.

**Heavy Weather** by Bruce Sterling  
Bantam Books, 312 pp., \$21.95

Bruce Sterling has never achieved the renown of, say, William Gibson (his onetime junior collaborator), but his work has shown a wider range, versatility, breadth of interest and imaginative reach than any of the cyberpunk writers whose advent he celebrated ten years ago. Sterling's last five books include a nonfiction account of modern electronic outlawry, two collections of stories, *The Difference Engine* with William Gibson (whose somewhat unfavorable reception owed much to the bewildered disappointment of Gibson fans, who failed to notice that the exuberant and silly book is mostly Sterling's), and now *Heavy Weather*, his first solo novel in six years. None of these books have been spin-offs or sequels to each other; each has created an imaginative world anew.

*Heavy Weather* is set in the summer of 2031, in a world wracked by extremities

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of storm and drought as a result of greenhouse disruption. In the American Midwest, the "heavy weather" has manifested as a plague of powerful tornadoes, which tear through Texas and points north every summer, killing thousands. Sterling's protagonists, a band of meteorological zealots called the Storm Troupe, chase after these storms every season, documenting their dynamics against the day when "the F-6," a tornado an order of magnitude greater in destructive force than any known before, makes its predicted appearance.

Sterling's narrative exuberance and characteristic zest are most immediately shown in his characters, who are invariably colorful, gratingly flamboyant, and passionately involved in the exotic particulars of their world. His protagonist, Alex Unger, a wealthy but chronically ill young man who is busted out of the Mexican black-market medical clinic where he has gone to ground and dragged into the Troupe by his strong-willed sister, is raucous and unproductive, having no skills nor expectations of a long life. He boasts a major Bad Attitude from a lifetime of dealing with drug smugglers ("I don't care about dope," he tells members of the Troupe, "I'm into medical supplies."), but is essentially a dying kid, as animated by the nearness of death as the protagonists of Sterling's *The Artificial Kid* and *Schismatrix*.

The major pleasure of Sterling's fiction is his style, which is outlandish, deadpan, mannered, and highly figurative. His prose deploys metaphors in heavy profusion, sometimes single personifications (a computer-driven kite "suddenly leaped into eerie life and shook itself like a panicked pterodactyl!"), but often in clusters which jostle each other inside one or two sentences. A characteristic description of the ravaged Texas High Plains:

"They passed the long dawn shadows of a decapitated oil pump, with a half-dozen rust-streaked storage tanks for West Texas crude, a substance now vanished like the auk. The invisible tonnage of drill pipe was quietly rusting deep in the rocky flesh of the earth, invisible to any human eye, but nonetheless there for the geological ages, a snapped-off rotting proboscis from a swatted greenhouse-effect mosquito."

packs as many metaphors as the brief passage could contain, some tossed off in a word, the last one extended. Such oriate prose can sometimes sag under its

own weight (I would have removed a clause or two from the middle of the last sentence), but remains vivid and arresting.

Surprisingly, *Heavy Weather* is narrower in scope than Sterling's previous novels. The novel covers the weeks leading up to the F-6, dramatizes its calamitous arrival, and then provides a denouement. The only sub-plot involves the disclosure of a conspiracy of cold-blooded political Machiavellians who engage in selective mass murder in order to rescue humanity from its present plight, who are brought on-stage (just as in *Islands In the Net*) to justify themselves. As in *Islands in the Net*, the novel ends on a note of hope and surprising sentimentality, with a young child offered as a metaphor for the world's new hope.

For all its virtues, *Heavy Weather* is Sterling's first novel not to mark an advance over his previous work. I enjoyed reading it, but it is not the novel I would give to others as an example of Sterling's best work.

**The Ascent of Wonder: The Evolution of Hard SF** edited by David G. Hartwell and Kathryn Cramer  
Tor Books, 990 pp., \$35

This more-than-outrized anthology is not going to offer everything to all readers—it is likelier, indeed, to have something to irritate every reader—but does provide tremendous (if sometimes inelegant) value. Longer even than its 990 pages suggests (Úrsula Le Guin's "Nine Lives," which fills 27 pages in most books, has been compressed here down to sixteen and a half oversize text pages), the anthology offers what by normal measures would be some 1500 pages of stuff.

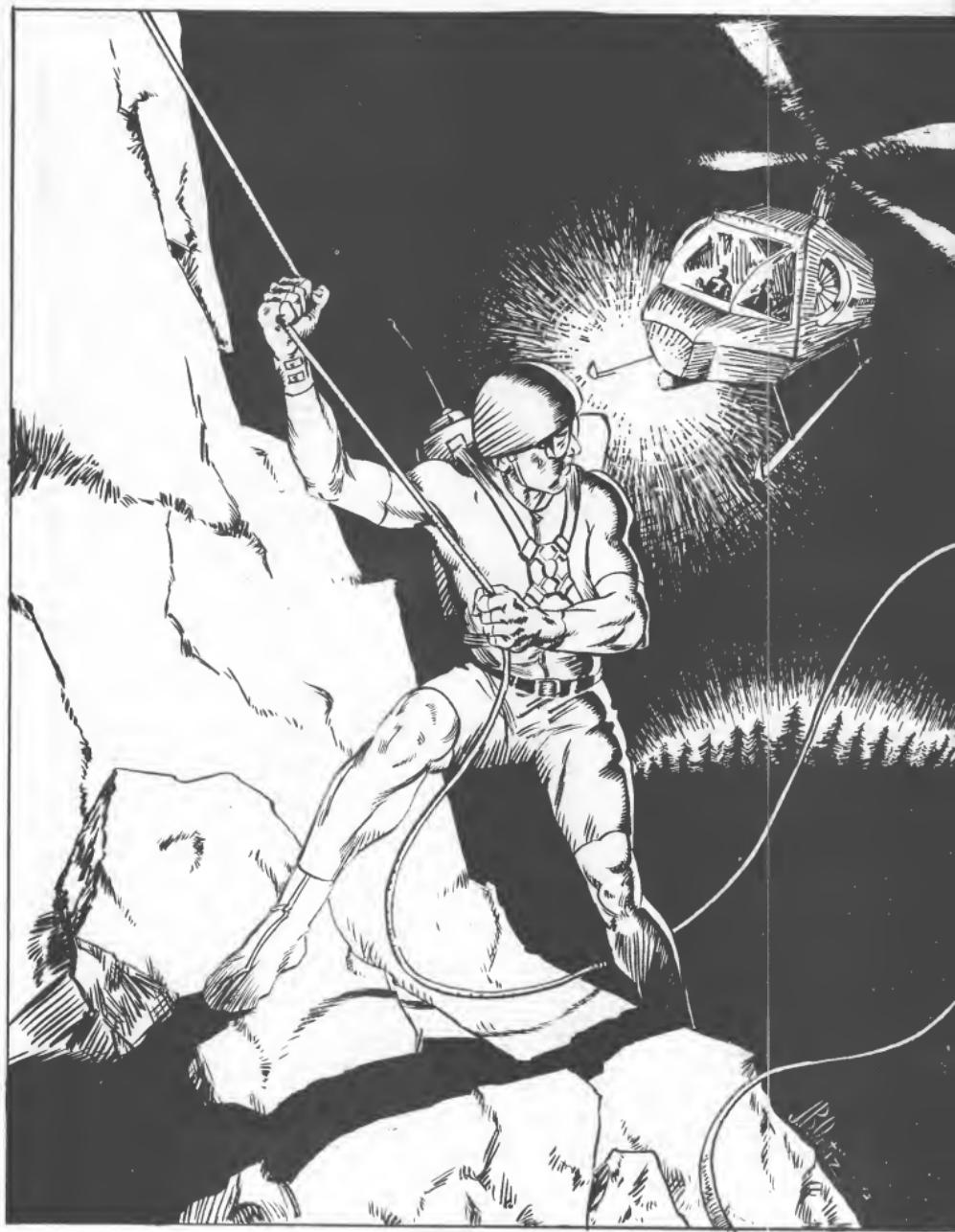
What kind of stuff is another matter. The book begins with no less than three introductory essays, by Hartwell, Cramer, and Gregory Benford, who elbow each other a bit over the definition of "Hard SF." Benford sniffs audibly at the inclusion of Le Guin, Wolfe, and Ballard (all in the book) among the ranks of hard SF writers, and goes on to liken hard SF, in an image cherished by true believers, as "play[ing] with the net up." (SF writers who adopt one fantastic premise and rigorously explore its implications, like fantasy writers who maintain consistent rules within their stories, are presumably wallowing in a downed-net morass of self-indulgence.)

In fact, Hartwell and Cramer argue interestingly that much of Ballard's work is "a form of hard SF, or in dialogue with hard SF," although one could argue that his "condensed novels" of the late sixties are as worthy of inclusion by these lights as the early "Prima Ballerina" and "A Cage of Sand." The editors' rationale for including Anne McCaffrey's first Dragon story, "Weyr Search" ("in genre SF, intentions count. McCaffrey intended it as hard SF"), is a good deal sillier, and after awhile I confess I gave up on the liner notes, which I usually read first.

Withal, the quadruple portions of text served up have a number of good stories in them, although they mixed oddly with numerous stories (Tom Godwin's awful old "The Cold Equations" being the easiest example) that appear to have been included in order to illustrate various points about the development of hard SF. "Miles J. Breuer, M.D.'s story "The Hungry Guinea Pig" (1930) may indeed be one of the earliest stories about a giant creature, but John Sladek's "Stop Evolution In Its Tracks!" is shorter and funnier, even if saying so makes one feel like a student reading a comic book tucked inside his chemistry text. Don A. Stuart's 1934 "Atomic Power" is a perfect stuffed example of this and that, but is really no longer readable, and I am a bit surprised to see a trade publisher bringing out a volume containing so many stories of purely historical interest.

The rest of the volume provides a rather broad-church view of the spectrum of hard SF (with various other stories that seem to be, as the editors prove fond of saying, "in dialogue with" hard SF) from World War II to 1994. Reprint anthologies sell so poorly and remain in print so briefly, that any volume that contains so generous a sampling of modern SF (Lewis Padgett's "Mimsy Were the Borogoves," James Blish's "Surface Tension," Kate Wilhelm's "The Planners," Theodore Sturgeon's "Occam's Scalpel," and much more, up to Greg Bear, William Gibson, and Bruce Sterling) will be forgiven various crotchetts. I don't know how Tor is going to wrestle this thing into paperback (multiple volumes, probably), so anyone who lacks a good grounding in short American science fiction ("hard" or otherwise) could do a lot worse than acquire this substantial tome.





## WHERE SAINT DOES MARTYR CALL

by

Frank C. Gunderloy, Jr.

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"ATTENTION! ATTENTION! YOU ARE ABOUT TO VIOLATE A RESTRICTED AREA OF STATE WILDERNESS PRESERVE! UNLESS YOU WITHDRAW, YOU ARE SUBJECT TO ARREST AND MAY BE LIABLE TO FINE OR IMPRISONMENT! DO NOT PROCEED FURTHER!"

The blare of the loudspeaker from the sheriff's helicopter bounced off the sheer granite face of Viewpoint Dome and echoed down the mid-night-blackened reaches of Windspirit Canyon, momentarily drowning the thunk-thunk-thunk of the turbine-powered blades. The solitary climber on the rock wall paid no attention to the bellowed admonitions. He methodically wedged a nut into an overhead crack, clipped in a carabiner, locked in his belay line, and began to edge up and around a shadowy overhang. His bulging pack gave him the look of Quasimodo on the facade of Notre Dame, and a windchime tangle of additional carabiners and anchors dangled haphazardly from his harness.

"YOU ARE ABOUT . . ."

"Give it up, Sully," said the chopper pilot, hitting the kill button. "He musta been climbing half the night already to get this far up the damn mountain, and he ain't likely to quit now. Why don't you lemme crowd in close and see if I can fan him offa there?"

Sully Amberson frowned, but the wrinkles didn't quite hide the amused look in his eyes. No matter how bad things got, Sully always found a laugh in the middle of them, like the whole world was a little off key, and he was the only man with a pitchpipe. Sully had been Chief Ranger of San Alejandro State Wilderness for almost a decade now, but it hadn't bent him over or taken the spring out of his step. He still walked just as tall as his six feet measured, his blond hair was still thick, and his blue eyes still sparkled—with amusement.

"Give him some old-fashioned bungee lessons, huh?" laughed Sully. "No way. Keep holding that spot on him. My intercept team's on the Willow Creek trail now, and if we can slow him down a little bit, they'll be waiting when he comes over the ridge. See if you can get an angle to blind him and hang him out to dry. Give him bat lessons."

The climber edged up past the overhang, set a new anchor, and began to inch his way along a fingerwidth ledge toward a narrow chimney. His climbing rope strung down and away like a tangled kite string, its shadow image flipping and crisscrossing in the blaze of the 'copter's "Nightsun" spotlight. His body looked compact, outline hardened by the black shadows, but his identity was effectively hidden by the smooth orange dome of a climbing helmet and a set of wraparound goggles. The copter's automatic vidcams dutifully recorded his appearance anyhow, clicking and whirring to themselves in response to some predetermined settings for rules of evidence. Misdemeanor failure to display access permit. Felonious trespass on state park wilderness. Officially documented. Five to ten. Open and shut.

"No good," said Sully. "Those goggles look like full spectrum intensity compensators. Fifteen hundred bucks a

copy. Our bat's got sunproof eyes. And he can still see in the dark."

"Hey!" said the chopper pilot, suddenly at attention. "He's gotta have a buddy down on the other end of that rope, giving him a belay. We can drop down there and snag that other sonovabitch, and then they'll both have to drag their asses down from there."

"Forget it," said Sully. "That's an autobelay reel, clamped to a ledge somewhere. See how he gives a little slack before he starts to move up, then pulls up tight when he's ready to set a new anchor. Sure signs of a robot belay rig. He's got all the latest technical stuff—those goggles, knee-and-finger minigrips, magic foot-skins, demand 'biners, the works. He could probably start solo up El Capitan after breakfast and be back at Yosemite Station in time for lunch, the way he's outfitted."

The climber set another anchor at the end of the ledge, took one defiant look directly into the glare of the Nightsun, and disappeared into the chimney. The only sign of his progress was the thin red strand of rope, sliding jerkily through the last visible carabiner.

"Now what's he up to?" said the pilot.

"Chimneying up that crack," said Sully. "Watch his line—you can see it haul in slack whenever he braces, then feed up every time he reaches for a new hold."

The last anchor suddenly popped out of the crack in a shower of crumbling granite chips, the embedded bits of mica catching the light in a fireworks-like display. The anchor and 'biner spiraled down the slackening rope, disappearing into the darkness, and a moment later, the climber burst from the chimney, falling, face down, arms spread, like some penitent sky diver praying for his 'chute to open.

Only there was no 'chute.

There was only a man, his final descent marked by further showers of sparkling rock as his weight and momentum jerked anchor after anchor free from the granite wall.

After an agony of helpless waiting, Sully and the pilot watched the climber smash and disappear into the pinyons below in an eruption of dust and pine needles. The rope followed him down, like an errant bit of spaghetti slipping back to the bowl, the pathetic little bit of machinery at its end still frantically reeling in the unresisting line. The pinyon forest swallowed it all, the branches closing over their prey, then resuming unruffled stillness as if nothing had happened.

"Jesus!" said the pilot, his fingers locked on the stick, his mind not conscious of the fact that he had maneuvered the controls to follow the falling climber through almost 1000 feet of vertical descent.

"Well, that's not much of a prayer, but it's about as much as the poor bastard's gonna get for now," said Sully, reaching for the commphone. There was no sense in leaving the intercept team to pike around Willow Creek for the rest of the night. The flatland sheriff's team could hike up the canyon in the morning for a leisurely body search.

"Stand down, search team. Time to go home. Our batman

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turned out to be a mouse with paper wings."

Braced in the chimney, the man in the orange helmet smiled as he listened to the rhythmic clatter of the chopper following his decoy into the depths of Lower Windsprit. "Gotcha," he said, grinning in the darkness.

He listened until the engine sounds faded into the distance, then shifted, inched up, and gained a ledge wide enough to stand on. After setting an anchor and clipping a safety line to his harness, he swung the pack from his aching shoulders.

"Damn thing still don't fit right," he said, fiddling with the shoulder straps. "Shoulda used my old one."

He stretched, rubbed at his shoulders, and began an inventory. Losses: a dozen anchors, as many carabiners, 1300 feet of Spiderite climbing line, the autobelay, and two very special items. One was a miniature holo-projector, tuned to project the falling image at the wavelengths of the Nightsun, and sealed in a carefully weighted bubble pod. A set of small proximity charges had been attached, designed to simulate the impact of a man's body at the end of its plunge into the darkness. The other was the radio control for the anchor blowout cartridges, which he'd dropped accidentally right after starting the simulation sequence.

"Time to lighten this load—that oughta help some," he said to the darkness, dropping the string of spare anchors and 'biners to the ledge. He rummaged in the pack for a moment, and added two frequency control chips for the holoprojector, labeled Sunshine and Moonlight. Finally, after tying a line to the pack so he could pull it up after him, he started back up the crack, free-climbing.

"Just like the good old days," he said, reaching for a firm finger hold.

A sharp pain snapped at his stomach as he stretched.

"Not now," he said. "I ain't got time now." He paused for a second until the pain from the tiny ulceration faded, then braced his feet against the side of the crack and levered himself up.

The crack had a name. It was called the Last Gasp Chimney of the Mattawan Route.

The climber was Harry Mattawan.

From its post in synchronous orbit, the Park Service survey satellite completed its routine scan of the central wilderness regions, reviewed the data briefly in its onboard processor, and rescanned several areas with readings beyond acceptable tolerances. Fitting the time-averaged data in a series of curve-matches, the processor made a preliminary judgment: thermal pollution, low level. Negative vehicular. Negative open flame. Minor alert status. Down-linking, it beamed its zipped findings to the central ground controller, where they were unzipped, reanalyzed, confirmed, and distributed. At the San Alejandro Ranger Station, the data were accepted and digested at the Survey & Status console. Several red and green plotter lines, previously coincident, diverged slightly.

"Warning," said the panel speaker in a metallic whisper.

After waiting 15 seconds, it repeated itself.

"Warning."

Another 15 seconds

"Automatic dispatch mode. Mark 2320 hours."

And another.

"Warning."

No one was listening.

Willow Creek trail crosses Hidden Divide on a broad saddle

at a little over 9000 feet, winding through an old stand of Jeffrey pines before starting the switchback descent into the south Windsprit drainage. Ranger II Charlie Crowell and his little squad of Park Aides sat quietly in the darkness, watching the stars blinking through the windstirred branches overhead.

To the casual observer with night vision, the three might have seemed models for a set of Russian nesting dolls. The ranger was large and bearlike, while one aide, a man, was shorter and slighter in build, and the other, a woman, was shorter and slighter still. Uniformed in the standard issue forest green, each had the muscular thighs and solid shoulders that are the heritage of miles on the trail with pack and surveillance gear. The congruity was only superficial, however. On closer inspection, the observer would have seen three very different people. Charlie was dark, his features broad, almost coarse. He lived and enjoyed the simple life—a life with very few shades of grey. The other man, Wilson Clement, was fair, his profile aquiline, his nature bordering the frenetic. A slight pot belly identified him as a man whose primary duties restricted him to a desk in the confines of the ranger station. The woman, Joan Brady, was also fair, with her long hair braided and coiled around her head. Her smooth features were marred by the blemishes left by a prolonged bout of teenage acne. She was not in the least self-conscious about her appearance.

"Such a great spot. So beautiful," said Charlie. "Smell the Jeffreys."

The faint odor of vanilla/butterscotch/allspice lent substance to the night.

Wilson sneezed and grumbled something inaudible. Wilson was nominally an Aide-Tech, in charge of the SurvStat as well as all perimeter monitor and defense systems, but intruder alerts excused no one from intercept duty.

"What's your problem?" asked Charlie.

"I said, 'Yeah, it's just a damn shame we're the only ones here to enjoy it,'" replied Wilson, bristling.

Charlie turned away, swallowing his answer. He refused to be baited into another of the interminable arguments about the injustices of the wilderness permit system.

"Could we stay a while?" asked Joan. Joan had been promoted from Cadet to Park Aide only four months earlier, and this was her third time outside the station on anything more than training exercises.

"Why not?" said Charlie. "Spend the night, even, long as we follow the rules. Everybody's got a bag in his readypack, and these new pads have restraint straps so you can't roll off. It's been a long time since I slept out under the stars."

He flipped on his helmet lamp, revealing that he and his companions were seated on clear null impact pads, perhaps a half inch thick, that seemed to have shaped themselves both to the contours of the bodies and the contours of the underlying layer of pine duff. Their packs were piled haphazardly on a fourth pad. The pads redistributed the weight of bodies and packs evenly over their entire area, and their undersurfaces of molecular repulser film prevented any material, organic or mineral, from adhering.

Charlie unbuckled his sidearm rigging, slipped his Statlink communicator off the belt, and flipped routinely through the monitor readout sequence.

"Damn!"

"What's wrong?" said Wilson.

"Total thermal balance in the Park is over redline. You must have screwed up the compensation for our extra body heat when we left the station."

## Where Saint Does Martyr Call

"I never screw up. You must have given me the wrong body weights." He sneezed again, glaring suspiciously at Joan.

"Don't look at me," said Joan. "It's probably your silly old SurvStat out of calibration—again."

"Can it," said Charlie. "It's not off by much. We can straighten it out back at the Station in the morning. Or let the relief crew worry about it when they come on duty. Now, isn't this a great spot?"

At that moment the moon broke over the eastern ridgeline, turning the rustling top of the tallest Jeffrey into a dancing swirl of silver, like some ancient beldame's feather boa.

"Yes," said Wilson. "It most certainly is—even if it's only for the three of us."

The darkness hid his momentary smile from the other two.

Harry Mattawan knelt to untie the haul line from his pack, then stood erect, shifting his weight from leg to leg to ease the cramps brought on by bracing himself during the chimney ascent.

"Hot damn! Made it. Round one to ol' Harry." The shifting became a clumsy dance of jubilation.

"Try to keep me out of my park, will you? Try to tell me I don't qualify for a permit, will you? Well, I got me a mission, and you try and catch me now."

A chill voice edged into the back of his mind, dulling the elation. They might just do that, and I'd end up doing ten years on some prison farm—if I was lucky. And if a Super Sierra goon squad was to take over from Sully and his team—he pushed the last thought away, unwilling to confront the worst-case consequences of pursuit and capture.

"Guess I better get a move on," he said. The dancing had stopped.

He hoisted the pack to his shoulders, and began to pick his way between the rocks along the clifftop. The eastern valley was spread out far below him, distant rolling dunes and dark desert foliage soft in the moonlight, broken sporadically by the harsh artificial glow of small towns along the highway. Sixty miles south was the edge of the city, where a dome of orange radiance smothered the moonlight and the few specks of stars that the moon had forgotten.

"Used to call this 'Desert View,'" he said. "Used to be a trail up here—twenty miles up from the highway. Anybody could give it a try. Anytime. None of this crap about quotas, and rich man's fees, and five years' waiting for a permit."

He paused, chuckling.

"Course, hardly anybody ever made it."

He turned west through a gap in the upthrust granite boulders, emerging to look down on a shallow lake rimmed with Lodgepole pines towering over a few stunted White Fir. The moon's reflection quivered on the wind-rippled surface. A boreal toad, its vigil for night-flying insects disturbed by his approach, splashed away in the swamp grass.

"Hidden Lake," he said. "Good old Hidden Lake."

It was like a greeting to an old friend.

Sully Amberson ducked under the gently spinning blades, waved good-bye to the deputy who had piloted the chopper, and hurried through the chainlink gate into the sheriff's station. At 2:00 in the morning, there was only a skeleton staff, none of whom Sully knew. He obtained several official forms from the uninterested clerk at the front desk, and after an hour of pen-chewing, filed an incident report. "Assistance of Sheriff's office requested at 2130 hours, 1 June 2060," it began, "following activation of eastern perimeter intrusion

alarms at San Alejandro State Wilderness" and ended "Pending recovery of body, suspect is believed to have met accidental death while in violation of Sections 704c and 705 of the State Statute 88147, commonly known as the LAL or Limited Access Law." Sully also submitted a request for a SAR team to conduct a body search in Windspirit Canyon, and signed a requisition chit for his helicopter time.

"Now the County can get theirs from the State—always a hand in a pocket somewhere—usually mine."

The clerk ignored the ambiguity and accepted all three forms without comment.

Outside, Sully sat at the wheel of his utility pickup, and debated with himself the merits of a few hours sleep before catching the first morning lifter up to the Mountain Station at the 8500 foot level. He still faced an array of paperwork: Daily Log & Usage, Department of Parks Intrusion Report, Super Sierra Commission Notification and Action Plan.

Why in the name of all that's holy, he thought, did the state ever turn the oversight responsibility for the LAL over to a bunch of assholes like the Super Sierras. They'll be yelling their heads off tomorrow, pointing fingers in all directions at once. I guess I better check in at the Valley Base Station and get my reports started.

But after he switched on the ignition, the lure of a calm night in a soft bed won out.

At the edge of Hidden Lake, Harry unrolled his heatcycler sleeping bag, unplugged the regenerator lines, and dropped the ends into the water. His excess body heat and moisture, instead of being released periodically from the bag's conservation cells, would now dissipate into the water. A simple plastic cover kept the bag dry.

"To you and pinpoint that, old spy in the sky," he said, glancing overhead.

He sat on the bag and peeled off his climbing shoes, thin rubber foot-skins a size too small—sensitivity at the price of pain. He rubbed his feet for a moment as the throb of returning circulation gnawed at him, then stripped off his remaining climbing aids, adding them to the shoes. His harness was next, but he saved that, stuffing it into his pack. Finally he unhooked the chinstrap of the orange helmet, and placed it on top of the growing pile.

"Used to be a day I wouldn't have needed all this hardware to climb up here, either," he said, running his hand over his head.

The moonlight revealed a tracery of blue veins on a mottled scalp, with only a few straggling white hairs to relieve the dry skin stretching over the hard skull.

"Buncha damn sissified junk," he said. "But—we'll keep these a while." He dropped the goggles into his shirt pocket.

His face was rough with gray-white stubble, deep furrows converging to the corners of the drooping eyelids, slashing across sunken cheeks to cut even deeper around the edges of his mouth.

He laid down in the bag, staring up at the sky, and rubbed at his watery eyes.

"You think you're gonna catch ol' Harry, but you got a few surprises coming."

He slipped into an exhausted sleep, snuffling and wheezing, and occasionally mumbling "a few surprises" as he continued the one-sided dialogue in his dreams.

The pain in his stomach, a trace sharper, awakened him just before dawn.

# Absolute Magnitude MSFA

"What in God's name is this mess?"

The man who spoke wore the official bright orange shirt and cap of a Search and Rescue team, but his ragged camouflage pants announced his volunteer status. Five more team members, similarly clad, were sifting through the dry fallen pinyon needles, stuffing bits of debris into bags stamped "Evidence."

"Dunno. Looks like mostly scraps of circuit boards and bits of plastic casing. Benny found something like a camera lens over by that big pinyon." The answer came from the uniformed sheriff's deputy who also sported an orange SAR cap.

"Helluva body search. No body. If you ask me, there never was a body. No blood, no trail, no nothing."

"Well, look on the bright side. No stink to put up with, no slops to scoop up, nothing to carry out but a few bags of junk. This is turning out to be an easy run."

"Yeah? It didn't seem so easy when we were humping up the canyon this morning at sun-up. Why don't you call dispatch again and ask 'em how much more of this stuff we gotta pick up?"

"We probably got enough already to keep the lab happy. Plus we got this rope and autobelay gadget. Something came busting down through the trees here. Let somebody else figure out what."

"Hello-o-o. International Sports Equipment, corporate offices. May I help you?"

"Connect me with John Appoleon, please. Tell him it's Sully Amberson calling."

"Hey, Sully—how's the State's number one rock-jock?"

"Tired, John, and feeling more like number three on a list of two. I've had one long night, and I don't think the day's going to be much shorter."

"What you need is the day off. Why don't we both pack it in and fly up to Lake Powell for some fishing?"

"You know I can't afford an angling permit on ranger's pay. And don't tell me you'll treat again—State Park headquarters gave me one helluva hard time last time I went with you. But you can do me a favor."

"Screw your headquarters. They're just pissed because I called them gutless wonders for letting the Super Sierras shove the Limited Access Law down their throats. We been friends too long to listen to that kind of crap. What do you need? We got some great new lines of null gear."

"What I really need is information. ISE credit records. Call it official state business—even if the request is a bit on the unofficial side."

"Oh, swell, Sully. I got my neck stuck out a mile now to bankroll the Open Parks People's Lobby, and now you want me to violate the Credit Confidentiality Act. You got a warrant, or a subpoena, or some such piece of paper you can send me to cover my ass, Sully, or am I supposed to sit here and wait for them to nail me?"

"I'll process you a whole roll of state paper as soon as I get back up to the Station. And you know what you can use it for. I need the scoop on anybody who's recently sold the farm to buy a complete top-of-the-line mountaineering outfit from any of your outlets."

"Hey—sounds interesting. Somebody find a way to break into the State's precious park other than trying to hack through the west fence? Are they giving you something to do other than arrest little old ladies with wire cutters?"

"It's not a park, John, it's a Wilderness Preserve—Preserve—remember. State law put it in the jar,

and they pay me to keep the lid on, like it or not. And don't tell me it's hurting your business. You make a mint on every null impact backpacking rig you sell, and you know it."

"Touche, ol' buddy—but I'd make a lot more if you'd let more than ten people a month use the damn place."

"I don't set the quotas, John—our dear friends the Super Sierra Commission does that—and the word is they might cut it down some more if they get recertified."

"Damn!"

"Don't go mouthing that around—it's a piece of privileged information. Now, how about that scoop on my climber?"

"So you do have a climber break-in."

"Do—did. What difference does it make? I still need to ID the guy."

"OK, Sully—I'll check the records, but it'll take a while. I'll call you back. Keep the peace."

"Or the pieces. Thanks, John."

Harry rummaged in his still-heavy pack, found his battered Sierra cup, and dipped it into the slightly cloudy waters of Hidden Lake. The sun was barely nibbling at the low desert horizon, reaching for the dark sky with faint red fingers. He paused, slipped on the goggles, and inspected the cup as if he believed the incipient threat of a bout of dysentery made some visible mark in the liquid.

"What the hell," he said. "What's a little giardia matter at this stage of the game?"

He brought the cup to his lips, paused, shook his head.

"Or maybe not. Maybe not. Too much to do. Can't waste time squatting in the bushes."

Digging deeper in the pack, he found a small bottle of pills, added one to the cup, swirled it until the pill dissolved, tinting the water faintly pink. He drank slowly, his hand unsteady, the water dribbling down his chin.

"Got those early morning empty belly shakes. Need to find some breakfast—and get the hell away from here 'fore they wise up."

For a moment, he considered breaking into his emergency rations, but decided otherwise.

"None—gonna live off the land, like the old-timers say."

He chuckled at the irony in his own remark.

"Well, I guess now that you've said it, old timer, you've gotta do it. Let's see if we can lighten up this damn pack some more."

Rummaging again in the pack, he found a battered cap with an indistinct logo and the fading words "Volunteer Patrol" smeared across it. He settled the cap snugly, pulling the brim down almost to his eyebrows, then set to inspecting his remaining equipment.

"Need every bit of it," he said, but finally added one of his spare reels of Spiderlite and a manual rappel rack to his discards of the night before.

He knelt, started to roll the sleeping bag, then changed his mind, covered the pile with the bag instead. He hoisted the pack to his shoulders, tightening and adjusting the waist band and lumbar pads, gradually accommodating the weight. His boots sank deep in the soft humus, and he paused for a moment, considered strapping on his null impact sole plates, then decided against it. He'd be faster, more agile without them.

"You ain't about to catch old Harry, tracks or no tracks," he said, chuckling. "Old Harry fooled you once already, and he's gonna keep on fooling you 'til he's over the top and outa here."

Skirting the lake, he slowly picked his way through the fir

## Where Saint Does Martyr Call

and climbed the gradual slope to upper Hidden Meadow, where a narrow seasonal creek trickled lazily down from Ookow Peak. He inspected the low shrubs carefully as he climbed, but it was too early in the season for chinquapins, and the few squaw currants he could find were immature and bitter.

The meadow and creek banks were more rewarding.

"Hah! Blue Dicks!" he said, calling the heartily Common Camas flower by the name usually reserved for its delicate lowland sister. He dug his fingers into the moist humus, gradually unearthing a bulb the size of a large shallot. Rinsing it in the creek, he bit it free from the stem, relishing its bland starchiness and slightly mucilaginous texture. Then he paused to inspect the small stand of flowers carefully, assuring himself as he dug and ate that all had blue-violet blossoms. White blossoms would have been the telltale sign of the infamous Death Camas, alkaloid killer of pioneer sheep and sheep-herder alike.

"That'd be all I need," he said, "Poison my ass and really end up dead under a rock somewhere. I ain't that much of a hero."

When he was finished eating, it was fully light, and the red streaks had faded to the gray of a slightly overcast sky. Harry dropped the goggles back in his pocket, and squinted through the trees to the northeast. Some three miles line-of-sight—or almost 10 miles by hiking trail—San Alejandro Peak topped out the ridgeline at just over 12,000 feet.

Harry couldn't make out the peak, but he knew it was there.

"I'm on my way, you big ol' chunk of granite."

Then he looked overhead at the gathering clouds.

"Thank you, God."

"Charlie, you should have known better."

Charlie Crowell was all muscle, broad-shouldered, and also over six feet tall, but he seemed to shrink a foot in the face of Sully Ambergson's quiet reprimand.

"And you, too, Wilson. You should have left the SurvStat on autoalert instead of autodispatch. Were you afraid the beeping would wake you up? How long have you been SurvStat tech anyhow?"

The sarcasm was real, but the questions were obviously rhetorical. Wilson busted himself with the strip chart records, and didn't try to answer. Joan Brady also found it an ideal time to turn her attention to repacking the search kits at the far end of the station.

"OK, let's finish the debriefing. After you got back here to the station and finished checking the SurvStat, what happened? Wilson?

"I called in a request for a high resolution thermal scan, got approval for an exclusive satellite channel, and worked over the Hidden Lake area in a 100 by 100 grid pattern.

"And?"

"Nothing. Total thermal was still high, but I couldn't spot any point sources that might've been a man. The only things with the right mass-temperature signature was our deer herd all bunched together—the pattern was right and the count was right. Nothing stood out alone like a man would. It didn't make any sense."

"Then what?"

"Then I started another calibration series, but these clouds began to roll in, and I can't do any kind of precise thermal checks with all this moisture in the way."

"OK. Now, ears up, everybody. Joan, get in here, this includes you. I don't know what's going on with the SurvStat readings, but a high total thermal still spells intruder. So how

do we know there wasn't another climber already at the top before we started chasing the first one? A second intruder, pushing the thermals off line?"

Silence.

"Well. No guesses? Then maybe you all oughta get those packs on and head back out there to see what you can find. And this time, Charlie..."

"Yeah?"

"Try not to have too much fun."

"Hello—Sully? John Appleton here. Listen, I hit pay dirt. Some guy dropped almost 50K the last three months, but he spread it over all 10 outlets, so it wasn't obvious. Same credit disc every time."

"Gimme a name, John. The sheriff just called, and there's nothing but tin cans and beer bottles down in that damn canyon. I still got an intruder on my hands. And a pretty slick one. Too slick."

"Did a number on you, did he, Sully? Well, The name is Mattawan. H. Mattawan. And Sully—he's equipped like he was gonna spend a month camping on a private reserve somewhere. He even bought a single-channel earpiece receiver, with extra crystals. Probably your primary frequency and something else—maybe the sheriff's, or some other support agency."

"Yeah, we usually call the sheriff for helicopter or SAR backup."

"Listen, Sully, from what I hear, this guy's been one giant step ahead of you so far. He might have something else in his bag of tricks."

"You seem to hear about things pretty damn fast, John. Anyhow, what he's got is a pack, not a bag—and I might just fill it full of trouble for him."

"Yeah? Well, make sure you watch your ass. He's got some gadgets from our hunting department that could put you in need of a trauma team."

"He had a weapons permit?"

"Not for firearms, but he had a license good for string, spring, and air power, and he popped for one of our best pieces."

"Well, now—that does sound a bit nasty. Anything else?"

"Like you say, Sully—I do hear things. I'd just keep my eyes on the vidspots if I were you—I think you've got yourself more than just an ordinary blossom-sniffer."

"Now what's that supposed to mean? You holding out on me, John?"

"Would I do that? I just think the timing is kinda funny. Big-time intrusion incident puts a spotlight on the Park System just when the Super Sierras are up for recertification. Smells fishy."

"Huh. You could smell the tuna right through the can, you got such a suspicious nose. My job is plain and simple. Catch Mr. H. Mattawan and get him out of my hair. Just send me a complete list of what he bought, will you? And thanks, John."

"My pleasure. Go get 'em, cowboy."

"Robert 365 to Robert 602. Come in, please"

"This is Sam Alley Mountain Station. Switch to backup channel."

"Robert 365 on channel 3."

"This is Sully at SAMS. Go ahead, Charlie."

"You were right about the second climber. We found a neat little pile of high-tech gear sitting on a rock at the east end of the lake—and that includes a climbing helmet with a name

## Absolute Magnitude MSFA

stenciled on it."

"Charlie, hit the bottom line, will you? Does it start with an M?"

"Hey! How'd you know? Mattawan."

"Charlie, I just got the sheriff's report, and I've been snookered. There never was a second climber. Only one guy, and he sent me out for popcorn when it wasn't even intermission. And then he spent the night with you guys snoozing in the next bunk. Color us all stupid."

"Ouch. OK—so now what?"

"Send Wilson back in here—I want him on the SurvStat board around the meadow. You and Joan see if you can pick up tracks anywhere."

"We already got sign. Raw boot tracks, bold as a bobcat, heading up the meadow. Joan is on 'em already."

"And Charlie—doesn't 'Mattawan' — 'Harry Mattawan'—mean anything to you?"

"Harry? Old Harry? Well, I'll be damned."

"You and me both. But if you spot him, don't waltz up to him like an old buddy and try to shake his hand. Assume armed and dangerous. Make sure Joan copies that."

"Harry? A&D? Harry?"

"Harry. San Alejandro station out. K-X-3-4-4-5-5."

The doe gasped—an explosion of breath that ended in a ragged screech—as the steel fletchette ripped between her ribs just behind the foreleg. Then she bounded away, blood spraying the low brush as she smashed her way down the hillside. Guttural cries continued to burst from her at each leap, the noise like some mad percussionist slashing at his drums with an un honed razor. Harry stood frozen, eyes wide, color draining from his already sallow cheeks. It wasn't like he'd expected. Not like a rifle kill, swift and clean, the majestic beast crumpling silently to the earth. Not like that at all.

"Oh Jesus!" said Harry, staring at the air-powered launcher, then dropping it and wiping his hands on his shirt as if to cleanse them. "Oh Jesus. Oh Jesus."

His legs suddenly his own again, he struggled down the slope after the animal, fighting his way through the bloodspattered brush, smearing streaks of still-warm redness along his sleeves and kerchief.

He found the doe about a hundred yards away, lying on her side under a stunted fir, hind legs kicking spasmodically in the dirt, flank heaving, a wan red trickle pumping from the wound. The stench from her dying evacuations, mixed with the blood spoor, was like a fist in Harry's face. He gagged, then retched, sour bile grinding up from his stomach.

He knelt, his own chest heaving, and cradled the beast's head in his arms, crying silently as the brown eyes clouded over. He could feel the doe's pain—and for at least the moment, it masked his own.

"Oh Jesus. I'm sorry."

A fly buzzed, settled on the bloody flank. Then another.

"I had to. I'm sorry. I just had to."

He stood up, wiping at his cheeks with the heels of his palms. He looked down at the rapidly-cooling carcass for a moment, took a deep breath, and unsheathed his knife.

Overhead, the skies were slowly clearing.

"OK, Wilson, SurvStat report. What've you got?"

"Not much, Sully. I managed a couple of scans when the clouds first burned off, but there's nothing more I can do for a while—sun's full up—too much solar re-radiation. It'll be

fifteen, maybe 20 minutes more, before I can get 'clean afternoon readings."

"Make 'em good—we're dealing with one smart old sonuvabitch, and I want to nail him before he gets too damn deep under our hide."

"Sully, I don't get it. If this guy's who you say he is, he must be hundred years old. We ought to be able to catch him just by listening for the wheezing."

"Not quite. I can tell you that Harry Mattawan was born in 1985, so he's only 75 give or take a month, and if I know Harry, he's probably in better shape than I am."

"You know him? We're trying to catch someone you know?"

"Harry was a Patrol Volunteer when I was a service cadet right out of high school, training to be a park aide. He came up here every week—sometimes twice—and he'd been volunteering for one thing or another in the State Park all his life. Took the Cadets under his wing, taught us the stuff we couldn't get out of the books."

"My God, Sully, you talk like he was your father!"

"He was, almost, but I got disinherited when they passed the Limited Access Laws and started the special permit system. They shut down all the Volunteer programs at the same time. Patrol, naturalist guides, visitor's information center, campground hosts, the works. Said they were an excuse for people to get into the Park without paying their fair share for a permit."

"So your friend Mattawan went home and sulked."

"No, not Harry. They kept the eastern scarp open for unlimited climbing the first few years, and climbers were still permitted to climb along the ridgeline by Hidden Lake. Harry would have been in his 50's then, but he took up climbing anyhow. Turned out to be damned good at it, too. Pioneered a route up Viewpoint Dome, with a tricky little traverse to a chimney nobody knew was there—which is exactly how he got himself in here last night."

"So now that he's here, what's he want?"

"I wish I really knew. Maybe he just wants to enjoy the wilderness again—he's past the age limit for a regular permit, and even if he had the cash a waiver would take about five years and a thousand signatures. But something tells me it's more than that. I just don't know what."

"Boy, he must really think this place is special, risking getting thrown in jail if he's caught. Or splattered all over the mountainside, if the SS declares him an environmental menace."

"When he's caught—I only hope we're the ones to catch him. And San Alley is special for him, extra special—you don't know the half of it."

Some real peculiar weather, the mountain rustics would have said those many years ago, back in the early summer of 1985. Ain't been no atom bombs lately, so it must be them darn new-fangled satellites, plain blocking out the sunshine. Never heard tell of snow clear down to the 6000 foot level this late in the season. And ten foot of snow at the peak. Wasn't natural, and no good would come of it.

Ranger Eric Harrison was climbing gradually up-slope on cross-country skis, making good time across the waffled drifts that covered Jaybird Ridge trail. He paused for a breather, enjoying the crisp white brilliance of the unbroken snow before resuming the exhilarating slide-push, slide-push rhythm that every Nordic skier knows and loves.

"Robert 418, this is San Alley 2. What's your 10-20?"

## Where Saint Does Martyr Call

"I'm just gaining Jaybird Saddle Junction. We've accounted for all the backpackers at Bender Creek walk-in camp, and Tony's taking them out—those that want to go. Most of 'em are having a ball playing in the snow. I'm on my way to check the Overlook shelter, just to be on the safe side."

"There's a medical emergency down at Deer Lick RV camp—highway 86 is snowbound. How long for you to get there?"

"On snow this sweet? Hour—hour and a half at most. What's coming down? I'm only carrying my mini-kit."

"Woman in labor. At least she was in labor a half hour ago—that's how long it took her husband to mush his way to the emergency phone. Folks named Mattawan—look for a Catalina trailer, campsite 37."

"10-4. On my way."

"So's the baby. Swing past the phone box on your way down, and make sure you don't lose the husband. He sounded kinda shaky. And good luck, Eric—we never had a baby born in the park before. San Alley 2 out."

But Eric's luck didn't hold. He blew a ski binding about halfway to Deer Lick, and it took him almost three hours to bash the rest of the way through the drifts on foot. He arrived in time to tie the cord and assure a tired but satisfied mother, a frantic father, and three wide-eyed older sisters that the newborn had all the fingers and toes it needed, along with all the other appropriate appendages for a boy. He never even opened his medical kit.

They named the baby after him anyhow.

2 June 2060

@@1300  
RadFax Registry No. SS43711  
Sullivan Amberson  
San Alejandro State Wilderness

Sir:

Your Notification and Action Plan as filed 0845, today's date, is herewith rejected as unsatisfactory. Within three (3) calendar days, you must submit a revised plan to this advisory board. The plan must contain, at a minimum, (a) the complete description of the methodology of the reported intrusion, (b) a review of all applicable preventive measures previously implemented, along with an analysis of their failure, (c) a full list of corrective measures along with a committed time schedule for the institution of such measures, and (d) documentation of disciplinary measures imposed on all staff members found derelict in this incident.

Failure to adhere to this schedule will result in the advisory board exercising its emergency command powers under the Limited Access Law, section 404, paragraphs 1-12.

Morris Ackerman  
for Joseph Garing  
Chairman,  
Super Sierra Commission

"Relief?! Forget about relief! There's only gonna be the four of us up here on the mountain for the duration, Wilson, and your feet are gonna sink as bad as the next man's."

"OK, Sully, don't burn my tail. I was just asking."

"I'm keeping two aides down at valley station for liaison, supply, and closure duty, and three patrols on the west fence,

twelve on, twelve off. That's SOP. If you have to have relief, find yourself an empty tin can."

"OK, OK—I hear you. Oh, crap."

"Now what?"

"There's the first afternoon scan and it's all greenline. No excess thermal."

"What? How about the high resolution?"

"Exactly like last night. The only thing with the mass-temperature ratios in the man-sized range is the deer herd, and they've moved up to the meadow on Bender Flats. Looks like your Mr. Mattawan has split."

"I don't believe it."

"Hey, I've got good calibrations, good scans. Believe it. He's either out of the park or he's down in a crack so deep that I can't find him."

"Wilson, you might be right. Raise Charlie and Joan for me."

"Robert 365 and Adam 221. This is SAMS. Status report, please."

"This is Adam 221. I'm on the boulders heading up Bony Ridge. Intruder tracks came up here from Hidden Divide, then disappeared. I think our gentleman friend is rock-hopping, and he was heading north when I lost sign. It's like Border Patrol tracking—the tracks always head north."

"OK, Joan, stick with it. Charlie, where are you?"

"This is Robert 365. I'm busting brush downslope about a quarter mile behind Joan—about to where I can see down into Bender Flats meadow. No sign of tracks leading out."

"OK, I'm heading cross-country to Bonebender trail. After I hit Jaybird Saddle junction, I'll work my way back down Bony Ridge to relieve you. Poke a stick in every cave, crack, and overhang you can find. I think we got us a Mattawan snake, coiled up cozy under some big chunk of rock to mask his thermal. Let's pry him outta there."

"10-4."

"And you stay on that board, Wilson. When his thermal finally equilibrates through that rock, or if he sticks his nose out anywhere, I want to know it before he does."

Harry peered from behind a tree at the south edge of Bender Flats, watching the scattered groups of deer snuffling and nibbling at the lush grasses. He'd been circling and keeping pace with the herd since late in the morning, moving when they moved, stopping when they paused to drink or graze.

"Come on, let's go-o-o," he said, glancing skyward, but the big mule buck in the meadow seemed in no hurry to lead the herd any further. He'd expected the herd to work their way along the ridgeline until late afternoon, then graze in one of the higher clearings. Now he was stalled, with at least four miles to go to the Jaybird Saddle Junction, and three more from there to the main peak of San Alejandro.

Harry thought guiltily of the doe, so cruelly butchered that he might mimic her thermal image. The herd was large—it would probably need thinning this year anyhow. And there was no fawn. A barren doe, moving on the fringes of the herd. Fair game for the coyotes, so why not for him? Somehow, he felt no better.

A rasp of static made him pull his earpiece free, squint at it suspiciously, shake it, and twist it back into his ear.

"Nothing. They oughta be smoking up the waves about me by now, and all I've heard is one call. I wonder if they've switched channels on me."

He pulled the tiny receiver from his ear again, took a small plastic kit from a side pouch of his pack, and attacked the

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receiver with a pair of tweezers. After a few minutes of breath-holding manipulation, he managed to unplug one diminutive component, replace it with another.

The microspeaker began to chirp and chitter, like some angry insect driven from beneath its rocky refuge. He reinserted it in his ear, listened, winced.

"Damn! They must be right on top of me."

He edged around to put the tree between himself and the ridgeline, sliding his pack between his knees, hunkering down into the tall grass. The noises in his ear intensified, then faded in volume.

Harry didn't move. As long as they didn't spot me when they went past, he thought, I'm OK. He'd strapped on his null-impact plates before following the herd down from the ridge. The snowshoe-sized pads left no discernible trail for his pursuers to follow. They'll think I'm still up on Bony.

When darkness came, he put his goggles on, located the last straggling deer moving up under the trees on the far side of the meadow, and crossed over to join them bedding down among the firs. He wrapped himself in a emergency reflector blanket from his pack, and settled down to wait out the long night.

"Outfoxed me on that one," he said, a little wistfully. "I was gonna be snug in my favorite cave, frying me a venison steak, having a high old time."

Only then did he realize how hungry he was. He unwrapped a piece of the meat he had so tearfully carved from the doe's haunch that morning. The blood odor was gone, replaced by a slight rancidity, the faintest hint of putrefaction soon to come.

"Off the land. Yessir, gotta be off the land."

He bit into the raw slab, worried a piece loose, chewed, concentrating on every movement of his jaw. His gorge rose, retreated, settled. Suddenly ravenous, he worried off another chunk, twisting and gnawing at the sinewy meat. Then, remembering his knife, began to hack off bite-size pieces and cram them into his mouth.

When his belly was full, he realized he no longer felt guilty. The body of the doe has washed away my sins, he thought, then shivered, ashamed of his own nearblasphemy. He drew the blanket tighter, leaned back against a tree. "Get that kinda stuff outta your head, Harry," he whispered into the twilight. "You needed that doe—and you're one up on the outfox list. Now you just gotta keep it that way for the big show, then you're outta here and home free." He tugged at the blanket again and settled himself. But this time, the raw pain came like a punishment, and it wasn't until early morning that exhaustion closed his eyes to give him a few hours of respite.

"The Channel 6 news has learned from reliable sources that at least one of the our State Parks, long considered private playgrounds of the elite and wealthy, has had its security breached by an intruder whose intent has not been determined. Although reports of a hooded surfer eluding Ranger powerboat patrols at Candelaria State Beach remain unconfirmed, the intruder in the San Alejandro Wilderness has been positively identified as Harry Mattawan, former park Patrolman and well-known mountaineer. Mattawan, a retired space station and satellite technician, is—get this, folks—80 years old, and has reportedly been leading a dozen strapping young rangers on a merry chase around the mountaintop for the last two days. Top officials of the Super Sierra Commission are in the state capital for recertification hearings, and could not be reached for comment. Commission secretary Morris Ackerman released a prepared statement in which the incident was described as a simple intrusion, and has not yet been elevated

to emergency status. However, several SS weapons squads are known to have been placed on alert. Federal spokesmen say no problems have occurred so far in any of the National Park Preserves.

In other news around the state . . . "

"The caller is Ellie Winston from the Senior Center in Westonville. Go ahead, Ellie, you're on the air."

"I just want to say, Lenny, that I think you got a great radio program, and I got a word about this Parks mess."

"Triple than-kews, Ellie, and what's your word?"

"I think it's a shame that somebody like this Harry Masterson's gotta break into a park to enjoy it. It oughta be like the old days when anybody could go to a park anytime they wanted. Trouble is, those politicians up in the state capital don't think about us ordinary people no more 'cause we ain't got big bucks to spend. It's just a shame. If Harry can hear us, we want him to know that everybody here at the Center is rooting for him. And so's a lot of other folks."

"That's a good word, Ellie. And so far, all the callers this morning have been on Harry's side. Now it's Chuck Willis, all the way from Reno, Nevada. Chuck, you're on the air."

"Hey, Len-boy, you're doing a great job, and I thought you might like to know that the book odds are thirty to one against that Harry fellow not getting his butt shot off. Now I got the word on a great idea."

"And what's that word, Chuck?"

"Instead of people betting against Harry, why don't they send the money to the Madison Defense Fund, and whatever money's left over can be used to help get the park system fixed so we can all enjoy it."

"Sounds good to me, Chuck. Folks, in case you missed it earlier, the address of the Mattawan Defense Fund and the Open Parks People's Lobby is P.O. Box 6448. . . ."

"SAMS to Robert 602. SAMS to Robert 602. Come in, please."

"This is Sully. Go ahead, Wilson."

"Joseph Garing's on the 'phone, and he wants to talk to you—personally."

"The High Commissioner—Mr. Super Sierra himself, huh? OK, Wilson, patch him through. No—hang on a minute. Anything new on the SurvStat?"

"Nope—it's all greenline. The only thing moving is the deer herd. And you, of course."

"Hell's fire! Harry, where are you? We've got to find him, Wilson, now that Garing's on our tail."

"Wish I knew. I've got a request in to Satellite Central for laser spectrophotometry scanning, but approval will take a while."

"A while? Don't we rate a priority with an intruder search underway?"

"We do, but there's been a bunch of intruder scares up and down the state, and everybody's screaming for a priority. I'll fill you in later. Anyhow, here's the patch."

"Ranger Amberson?"

"Yes, Mr. Garing."

"Have you seen the newspapers this morning?"

"Mr. Garing, I've spent the night bivouacked up here on Bony Ridge, trying to intercept our intruder. The marmots don't deliver newspapers."

"Don't wise off at me, Amberson. The press and video are tearing us up and your footdragging isn't helping. The middle of the recertification hearing is the worst possible time for an

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incident of this sort, and the Commission wants to see some action. Is this line secure?"

"No, Mr. Garing—both park frequencies are open channels. We run pretty low power, so we're hard to pick up beyond the boundaries, but I can't make any guarantees that we're not being monitored."

"Then I will arrive at your valley lifter station at 1400 hours. You meet me there, and I will review your performance on this matter in detail. We are going to be rid of this intruder, no matter what it takes. If the Super Sierra Commission has to go to emergency status, believe me, it will do exactly that. Goodbye."

"Wow, Sully, he's really boiling. Are we in big trouble?"

"Yeah, Wilson, and then some. That fat bastard. Where are Joan and Charlie?"

"Rolled in their bunks, trying to catch some sleep."

"Well, give them a couple of more hours, then pick one to send up here to Saddle Junction for lookout duty. Then send the other one up as relief in about 6 hours more. I'll scout around here 'til about 11 hundred before I start down, and I'll cache all my gear here, so whoever you pick won't have much to carry."

"Why do I have to pick?"

"Because I'm tired, and I'm mad, and I don't want to be the heavy on top of everything else. Look at it this way, Wilson—you'll be making an executive decision. It'll look good on your resume."

"Do we need resumes?"

"If I push Garing's face in, which is the way I'm feeling about now, I'll need one for sure."

"Calm down, Sully. I got a feeling something will happen to get Garing off our backs."

"Don't I wish. Robert 602 out."

"10-4. SAMS out. K-X-3-44-55."

Harry had awakened abruptly, alert and apprehensive, but unable to pinpoint the reason for his knife-edge arousal. Only his eyes moved as he listened to early morning sliding toward day: the whisper of the first breezes winnowing the meadow grass, the creaks and snaps as the sun warmed the flexibility back into the pine limbs overhead.

"An ordinary morning on the mountain," he whispered to reassure himself, but the little warning flag in his head didn't stop waving completely. He could sense it, just beyond the edge of his thoughts, trying to get his attention. "Ordinary," he said again. "Only I shoulda been a damn sight closer to the peak by now."

He began to uncurl his stiff fingers from their grip in the blanket hem. The blanket slid from his shoulders as he gradually regained the use of his hands. He was colder than he'd realized, and the sun didn't seem to warm him. Its rays were pale and inadequate, weakened by the filtering canopy of branches. He rubbed at the back of his neck, standing slowly, jerkily, as if he feared his knees might fail him if he tried to rise too rapidly.

Only when he was fully erect did he realize the cause for his alarm.

The deer herd was gone.

"Dammit, what next?" he said, starting toward the meadow. Then, realizing he had shouted the words, he stopped, peering furtively from side to side. He backed against the trunk of a Lodgepole and stood holding his breath. The tiny receiver in his ear began to squeak, and he tapped it, accidentally pushing the volume to its maximum.

"WE ARE GOING TO BE RID OF THIS INTRUDER . . ."

"Oh, Christ, they musta heard me," he said, jamming his back against the tree until the bark cut into his skin through his shirt. Then, eavesdropping further on Garing's tirade and the subsequent exchange between Sully and Wilson, he relaxed.

"Well! Maybe I got me a break after all."

He hurriedly stuffed the blanket into his pack, swung the pack to his shoulders, and trotted along the meadow edge toward Bonebender Trail, struggling with the waistband as he went. He took up a position among a thick stand of young Lodgepoles, where he could watch the trailhead while effectively hidden in the interlocked low branches and hazy shadow.

"Now then, young Sullivan-me-lad, when you come down, I go up. Then we'll see who can catch who. We'll have us one of those races for the peak, just like the good old days. Only Ol' Harry's just gonna be one step ahead all the way."

A sudden movement on the trail brought him fully alert, and as he watched, one of the errant deer—a yearling buck, shreds of velvet still clinging to its diminutive antlers—walked casually along the trail from the meadow. Peering through the shadows, Harry was able to spot several more brown forms browsing further up the slope.

"Another break. Harry, maybe this is gonna be your day, after all."

Watching the deer, he realized the meat from yesterday still lay heavy in his stomach. Sour gases rose in his gullet as his digestive system, stimulated by the morning's exertions, growled into belated action. Suddenly dizzy, he lowered the pack onto the matted pine needles, then sat leaning against it, shaking his head to counteract the spinning.

His stomach rumbled again, followed by a wave of nausea. But the pain was gone.

Wilson Clement slumped in his chair at the SurvStat console, dozing through the early afternoon hours. He'd roused himself briefly at midday to take a status report from Joan, already well up Bender Wash on her way to the meadow, and again at about 1400, wondering how Sully's meeting with Garing was coming along.

"Warning," said the familiar metallic voice.

Wilson was instantly awake, his eyes darting from the main readout screen to the permanent strip chart records. Everything was still greenline.

"Warning. Procedure 471-SLL satellite laserometry will initiate in one minute. Select manual interactive or automatic dispatch mode."

Wilson's fingers clattered briefly over the keyboard, opening a data path into the SurvStat's main hard file.

"Initiating interactive scanning."

The main screen blinked, resolved itself into a green diagonal, which broke and unfolded into a grid of numbered squares. Wilson superimposed the park's contour coordinates, adjusted the scale, brought up the areas of high thermal intensity, adjusted again to minimize the scanning area.

The console beeped, and a circle of light began to track deliberately back and forth over the selected grid regions. The metallic voice began a steady drone of numbers.

To all my friends, and to anyone who loves the natural splendor and beauty of this world, the letter began.

"Where the hell did you get this?" asked the editor.

"Confidential," answered the reporter. "Let's just say my

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source is a respected businessman with a really big hardon for the Super Sierra gang and let it go at that."

I know I'm breaking the law and if this letter has been released, then I've probably succeeded in making myself a fugitive from justice. But the Limited Access Law deserves to be broken. It keeps ordinary people like you and me from being able to enjoy one of God's greatest treasures—the great outdoors.

"How do you know it's authentic?"

"Handwriting. Got samples from Motor Vehicles files, Park Permit Applications, his insurance company. They all check out."

Even if people like you and me could afford a state park permit, we still wouldn't be allowed to do anything that would leave the "taint of mankind" on the environment. That means you'd have to spend lots more money for special null impact camping equipment, and you'd even have to pack your body's wastes out with you. And now the Super Sierra Committee is saying that the "taint of mankind" includes the air that we breathe out, and the sweat from our skins, so they're going to cut most parks down to only five permits a month to protect the wilderness. Well, I think these people care more about wielding power than they do about protecting the wilderness.

"Articulate, isn't he?" the editor said.

"Read on—it gets better."

I was born in San Alejandro State Park, and I put in a lifetime of volunteer service there, and so a few years ago I asked the state to let me be buried in the wilderness. They treated me like it was a joke. Well, now the joke's on them. I'm going to leave behind the biggest "taint of mankind" that I possibly can. I intend to die here.

"Guy's a nut case. Was he really born there?" asked the editor.

"Checks out. And you might call him dedicated, or even a fanatic, but not a nut."

My death will serve a two fold purpose. It will expose the monomaniacal bureaucrats who administer the LAL for what they are, and it will show that one decaying "mankind", leaving its "taint" in the wilderness won't affect the environment one iota. The deer won't die from awful diseases, and the trees won't wither away, and the only thing that will happen is that there'll be a few more scavenger beetles around to clean up the mess.

"Wow. This could be one hot potato. I'm not sure the old man will let us run this one," the editor said.

"Not to worry. I've already been upstairs, and the old man says the SS Committee is fair game. They got nothing on us," the reporter said.

If you believe, as I do, that the Limited Access Laws need to be repealed, then do something about it. Write your representative, support the Open Parks People's Lobby, do whatever you have to. Mention my name when you do. I'd like to be remembered as the guy who started it all

—Harry E. Mattawan

"OK," said the editor, "trim it by 50 and go splash on the 2:30 vidspot. See if publicity can get some actress/activist to read it. Somebody the viewers will associate with motherhood and clean water. Find a pix of this Harry guy and blow it up for the backdrop—and make sure he looks like a fucking saint. And get some commentary from whoever's running that People's Lobby thing. It's your baby."

"Up and running. And maybe we'll add a trailer to plug

that Mattawan Defense Fund that's making such a noise. And a couple of Joes-n-Janes off the street for public reaction," the reporter said.

At 2:30, Joseph Garing suggested to a tightlipped and heavily perspiring Ranger Sully Amberson that they take a recess to watch the latest vidspot.

At 2:45, Sully was on a lifter, headed back up to the mountain station. Joe Garing sat limply in the valley station—perspiring heavily.

"Adam 221! Adam 221! Joan, this is Wilson at Sally Station! I mean this is SAMS! Joan, where the hell are you? I got him! I got him!"

"SAMS, this is Adam 221. You are 10-2 so loud you almost split my cardrum. What do you mean, 'I got him?' Where's he at the station?"

"No, no! I mean I got him on the screen. I got his location. He's on Bonebender Ascent, the upper switchbacks, headed toward Jaybird Saddle Junction."

"Oh . . . shit. Wilson, shouldn't have let me sleep so long. I'm still on lower Bonebender, starting up from the meadow. He's a couple of miles ahead of me, at least. I'll never catch up."

"Joan, he's an old man—you oughta be able to climb two jumps for his one. Go for it. He's gotta wear out sometime. I'll wake up Charlie and send him out for back-up. I can't raise Sully—he must be on the lifter heading up from the valley station. And don't forget this guy is A&D."

"Damn! I wish we could get a chopper."

"You know wilderness flyovers are forbidden, except in cases of imminent threat to life. But just be careful what you wish for. If the SS goes to emergency status, they'll have a chopper—with a goddam goon squad on it. They'll burn the top off the mountain rather than let that poor old bastard get any farther."

"You're kidding!"

"Like hell, Joan. You shoulda heard what they did to those poor kids that were caught fish-poaching in Sweetwater Lake Preserve last year. Unless you want to help carry out the pieces, you better find him first."

Harry stopped, bent over, his hands braced on his knees. Between ragged breaths, he coughed, managed to clear his throat, spat weakly. More saliva followed. He let it drip from his mouth in a spidery stream, the effort to spit again more than he could manage.

"Not . . . gonna . . . make it," he gasped. He could feel his pulse pounding at his temples.

"Getting . . . too . . . old . . . for this kinda shit." He spoke the last phrase in a single burst between two heaving inhalations. The breaths were coming faster, but not helping him to recover. The pounding intensified, began to wrap around his scalp, jab down the back of his neck. His arms spasmed, pitching him forward, staggering, but he managed to steady himself. He could feel his knees beginning to wobble.

Easy, Harry—easy. Pushed yourself a little too hard. Got a touch of the sickness, that's all. Take it slow. You can do it.

He slid his hands up to his thighs, his hips, slowly coming upright. He unbuttoned the pack, slipped out of it, stepped off the trail to brace and support himself with his back against a large boulder.

Easy, now—easy breaths. In—out. And in—and out. Been a long time since you been at this altitude. Didn't give yourself time to get used to it. Must be close to 11,000 feet. Gotta

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acclimate.

The pounding eased, retreated to his temples, faded. His breathing, although deep and still a little ragged, became slower and more regular. He forced himself not to think of the consequences of a full-scale bout of mountain sickness, relentless fluids forcing their way into congested lungs and swelling brain tissue, with descent to lower altitude the only cure. He willed himself to relax, to take stock of his surroundings. The crowded forest of Lodgepoles and Ponderosa-Jeffrey hybrids had given way to patches of wind-contorted Limber pines, hugging the sparse strips of soil between tumbled granite boulders. The trail before him edged its way crookedly upward across the treeless stretch of a steep talus slope, meandering drunkenly over the haphazard scree and disappearing around the curve of the mountain beyond.

"Devil's Slide . . . jus' ahead . . . so you still gottabout . . . three-four miles . . . to the peak."

He shook his head, smiling at himself.

"And you ain't about . . . to get there . . . today."

He glanced overhead, estimating it would be hours before the sun would drop behind the ridgeline.

"Need a place to hole up . . . getting downright chilly."

He slung the pack to one shoulder, and began to pick his way between the pines and boulders, heading uphill and farther off the trail. He paused, got his bearings, smiled.

"Think I remember just the place. Just the place."

His breath came easily now, but a faint throb persisted behind his eyeballs. He ignored it and set out again, scanning the slope for a configuration of gnarled wood and cracked granite that matched a distant memory.

A cold wind rifled the pine branches, paused, rifled them again, a bit stronger, a bit colder.

Far down the mountain, near the spot where Harry had watched and waited among the Lodgepoles, the precious earset lay crushed in a footprint, its tiny whisper stilled forever.

"You had him but you lost him? Wilson, are you trying to give me a heart attack? How'd he get away? What were Joan and Charlie doing? Damn!"

"Easy, Sully—When I say 'I had him,' I mean I had him located—I had him on the screen—he was up on Jaybird Saddle headed for the peak, and Joan must have been almost in sight of him, and then he was gone again."

"Well, Christ Almighty, find him. Whatever you did the first time, do it again."

"Well, now, that's a problem. See, what I did was monitor hydrocarbon and carbon dioxide ratios from a laser sweep, and match them with the thermals."

"And?"

"And I came up with a real low ratio for one of those deer—which means it wasn't a deer at all—it was a man moving along with the deer herd. Deer pass a lot more methane than men. It's all that cellulose they process in their guts. Anyhow, once I had the lowball spotted, it was easy enough to follow him with only thermal tracking."

"Well, I'll be damned. So that's how he's been hiding. Nice piece of work, Wilson. But how'd you lose him?"

"I wish I knew. Joan couldn't have been more than a quarter mile behind him on Jaybird Saddle trail, and his thermal just faded out."

"What about more laser scans?"

"That's where the problem is. The wind's come up along the ridge, so methane and CO<sub>2</sub> are long gone by the time you try to scan for 'em. And the temperature's dropping, too.

We're in for some tough weather up there."

"So what am I looking at on the screen here?"

"Two thermals on the Jaybird Saddle-to-Peak contour grid. That first one's Joan. She's gone up the first switchback to Last Chance Overlook, and says she'll sit things out in the shelter there. That other one's Charlie, poking around near where we lost our man. I had good enough coordinate checks that he couldn't be more than maybe a hundred or hundred and fifty feet away from my reckoning point in any direction."

"Wilson, I think maybe this time he did crawl under a rock, and I've got a hunch I know right where that might be. Stay with your board—maybe he'll stick his nose out long enough for you to spot him again. I'm going up and help Charlie. One hundred fifty feet radius is damn near two acres—that's a lot of territory to cover on terrain like that."

"Sully, it'll be dark by the time you get there. And it's probably gonna rain like hell. I won't be able to coax much help out of this thing—thermals will be absolutely impossible to monitor."

"Wilson, if God didn't want us to see in the dark, he wouldn't have given us flashlights. And believe me, I won't melt, and the sun will shine again tomorrow. Raise Charlie and tell him I'm on my way."

Back in the summer of 2038, and in the three summers before it, the weather had been hot and dry. The winter's sparse snow had all burned off by late April, and the seasonal creeks down Ookow and Bender Wash were only ripples of polished pebbles half-buried in courses of loose sand. Hidden Lake was a wasted expanse of cracked mud-crust, spotted with the husks of dried tadpoles trapped before completing the first stage of their frantic life cycle. Trees weakened by the lack of water fell prey to relentless pine-borers, and streaks of dead-brown skeletons scarred the mountainside's normal cloak of green.

The mice and the voles and the squirrels and the marmots departed for lower altitudes, unable to subsist in the parched forest, and the small predators—bobcat and coyote—had no choice but to follow. The deer had descended with the first scant snow of the autumn before, and were not eager to return from the foothills to a mountain where spring held no promise of sweet water and lush meadow grasses. Only the Western Fence lizards were undaunted, relishing the heat and arid breezes, basking lazily on every sunbaked boulder, and surviving on a diet that quite commonly included their own offspring of earlier in the season.

A hiker at Willow Creek Overlook spotted the mountain lion, lying far below, half-submerged in the shallows at the foot of upper Windsprit Falls. Driven far from her normal range by the lack of water and game, and unfamiliar with the territory, she'd probably slipped on the crusted algae as she tried to drink from the spindly remnants of Willow Creek.

They were short-handed at SAMS that day, so Ranger Elizabeth Jenkins asked Harry would he mind making the tortuous climb down Windsprit Trail to check the report. And would he take young Sully Amberson along with him—the cadet could use the experience.

"It's a shame—damn shame," said Harry, after a cautious two hour descent brought them to the pool below the falls.

"She's dead, all right, said Sully, lifting the cat's head from the water. "Looks like her neck's broken."

"You'd sure be in a fine fix if she wasn't. Next time, you poke with a stick first—a long stick—before you reach for any kinda creature bigger'n a hawk. Might save you from

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loosing a finger or two. Or a chunk outa your neck."

"Yeah, I guess that wasn't too smart, was it?"

"Not too. Damn!—look at her belly. She's nursing—got a couple cubs stashed away somewhere."

"Well, that's the end of them—we'd never find her den."

"Now don't you be so sure, young Sully-me-boy. Don't you be so sure at all."

"OK—maybe we could find it. Then what?"

"Then we'd pack the cubs off to the Recovery Center for the captive breeding program—and maybe get them back someday. The way it is now, you're looking at the last of San Alley's mountain lions. That old tom over on the western slope's gonna change his range for sure, now that his lady's dead."

Harry spent that night at the station, with Sully helping him pinpoint every reported sighting of the big cat over the years, plotting line after line across the map until he was sure where the center of her range—and her den—was most likely to be. Then they spent two frustrating days crisscrossing the slopes above Jaybird Saddle, until at last Harry was stopped by a faint whimper. After many intervals of patient waiting, his ears finally located what his eyes could not. A stand of gnarled trees in a granite crack had effectively masked the crawl space entry of the cavernous den.

There was only a single cub, weak and unresisting. It began to suck on Sully's sleeve after Harry handed it out into the sunlight.

It was a time and a place neither man would ever forget.

"Come on, Charlie, shine your light up by those trees. It's gotta be around here somewhere."

"Sully, lets pack it in. We're not gonna find what you're looking for in this kinda weather, and it's getting colder by the minute. The rain's turning to sleet, maybe even snow—I don't care if it is July."

Charlie Crowell was dry enough in his slicksuit, but managed to look forlorn anyhow, standing droop-shouldered in the middle of the trail with bits of ice sliding like tears down his cheeks.

"Maybe you're right, Charlie. Let's head down to Bender and find some cover for a bivouac there. We can start fresh in the morning—maybe it'll be clear by then."

"What about Joan?"

"She'll be snug enough up in the Overlook shelter, and she can stand lookout duty as soon as the sun's up. That way, he still won't get past us. Let's get settled in Bender, and then we can call her and Wilson and plot a strategy for tomorrow. If this keeps up, we're gonna have to have cold weather gear for sure. I might let you head on down to SAMS and bring back what we need first thing in the morning."

They were tramping along the muddy lower switchbacks on Bonebender trail when Charlie spoke again.

"Sully, before we call Joan and Wilson, I've got to talk to you about this whole business."

"Shoot—I'm listening."

"You knew Harry a helluva sight better than I did. Do you think he meant all the stuff in that letter about killing himself to show that the parks oughta be open again?"

"Oh, he meant it all right. How'd you hear about the letter?"

"Wilson sent out a textfile on our Statlink channel right after the vidcast."

"He did, huh? Well. Well, well, well. So what's the problem, Charlie?"

"So how come we're acting like Harry was a major felony

want, treating him like he was some crazy A&D with a rattler gun, the whole business?"

"OK, Charlie, so maybe he's not really your usual A&D. I got a list of the weapons-type gear he's carrying from John Appoleon, and it's my guess he was just tooling up for that little deer trick of his. I don't think Harry'd take a potshot at either one of us."

"Then if that's the case . . . Sully, you're not gonna like this."

"Like what, Charlie?"

"Sully, I don't want to catch him."

"Charlie, I don't either. I love that old man. But my paycheck says Chief Ranger on it. I have to keep trying."

Some real peculiar weather, the mountain rustics were saying that morning. Ain't been none of them satellites shot up there lately, so it must be that darn newfangled space station, just plain blocking out the sunshine. Never heard tell of snow clear down to the 9000 foot level this early in the season. And easy three-four foot of snow at the peak. Oh? said the old timers—why that ain't nothin'. Now when I was a boy back in the summer of '85 . . .

Lying on his belly under the overhang, Harry poked a tiny hole through the snow blocking the den's entrance, pausing to listen for any unusual sound before breaking the rest of the way through the packed white barrier. Even after the silence of early morning reassured him, he still slid forward only enough to free his head and shoulders, shielding himself behind the little patch of Limber pines that grew over the mouth of the den. The loss of his radio had unnerved him, and despite the relative comfort of his hiding place, he'd spent a dream-riddled night, pursued by relentless black-uniformed rangers as he slipped and stumbled across the barren trail to the peak.

Points of sunlight sparkled and danced across the fresh snow, then coalesced into a solid white glare, making his eyes water. He rolled onto his side, groping in his pocket for the goggles.

"Least I didn't lose these."

The snow was several feet deep at the den mouth, with deeper drifts ramping up the windward sides of the boulders and small clumps of pines. He twisted around until he could look further up the mountainside. The trail was difficult to spot, its edges smoothed and blended into the terrain by the smothering snow cover.

"Harry, you didn't figure on this one. Didn't figure on this one at all," he whispered to himself, scooping up a handful of snow. The cold lump lay wet and heavy in his palm.

"Won't get too damn far in this," he said, then laughed.

"Course, won't nobody else get too damn far either, unless they got their skis with 'em."

The idea sobered him. Skis and snowshoes could be brought up quickly from the Station, putting his pursuers at the advantage. The repulson film made his null impact sole plates so slippery they were useless on snow or ice, despite the broad footing they offered. He'd have to slog along in only his hiking boots, and with the snow a foot or two deep here, it might easily be three or four feet deep near the peak. He'd bog down for sure.

"Well, now, we'll have to take us a page from another book—one damned old book, you betcha."

He wiggled his way backwards through the crawl space to the inner den, returned in a moment with his knife. "One damned fine old book, you betcha." Using the knife like a saw, he cut into one of the pine branches. The odor of fresh

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pine tar, released on the background of air cleared by the fresh snow, was like the blast of an ammonia capsule cracked under his nostrils.

"Jesus! I ain't careful, they'll track me up here from the smell."

Working more hurriedly, he cut a series of carefully selected branches from the pines. Branches that could be woven together, or even tied in knots, thanks to the astounding flexibility that gave the Limber pines their well-deserved name.

Branches that Harry quickly fashioned into a clumsy but functional pair of snowshoes.

"Robert 602 from SAMS. This is Wilson. Everybody copy. Our man is out and moving. Coordinates 3.72 by 5.05, heading north on Jaybird Saddle. Right where we left off. Can't miss his thermal with the snow for a background."

"OK, team, heads up. Robert 602 to Robert 365. Charlie, what's your 10-20 with those skis?"

"This is Robert 365. I'm almost to the top of Bonebender. What's your 10-20?"

"Maybe a mile up the Saddle trail. There's some deep drifts blocking me here. Hurry it up—I need those skis, dammit."

"Christ, Sully, I been down to SAMS and back in the dark with only a couple hours sleep. Keep your fucking shirt on. Stick that up your ari-waves, anybody's monitoring this operation."

"Easy, Charlie—we're all a little edgy. Just get those skis up here, and the head dog will snatch the ol' rabbit right off the railing. Then we can all go home for a nap."

"Adam 221 to Robert 602. Sully, I got a visual! I see him!"

"Hell's bells, Joan, I thought the snow had you stuck in the shelter."

"I was, but I dug out through the roof hatch. I got my glasses on him right now. He's down on Devil's Slide, almost to the Switches, and he's moving pretty fast, Sully. Looks like he's wearing some kind of fuzzy snowshoes."

"Fuzzy snowshoes? Fuzzy snowshoes? Adam 221, please repeat. No, wait, Charlie, I've got you in sight."

"Yeah, Sully, I see you, too."

"OK, team, with power skins on these skis I should be able to catch him in an hour easy—long before he gets all the way up the Switches. Joan, you duck back in the shelter. When he gets to the end of the first switch he'll probably try to stop in there for a breather and you can grab him."

"Me?"

"You can do it. He's not gonna be that much of a handful. Charlie, you follow me close as you can for backup, and bring those extra skis for Joan. Wilson, keep him spotted. Everybody set?"

"10-4"

"Now, Harry, you crazy old bastard, here I come. Robert 602 out."

"Adam 221 out."

"SAMS out. KX3-44-55."

Setnicka's Anvil, named for the wilderness SAR pioneer of generations before, dominates the northwestern massif of San Alejandro peak. A fifty thousand ton block of uplifted pegmatite, witness to the power of the mothering magma in the depths below, it juts outward like the battlement of some hulking castle carved from virgin stone by the giants of old. Above it, only a few tumbled boulders stand to mark the true peak. Beneath its smooth 400 foot face, the rest of the massif sweeps sharply down in another thousand feet of chaotic

contrast, a many-buttressed wall of cracked and jagged granite, spreading north and west before ending in a jumble of steep wooded canyons.

Harry clambered out onto the broad windswept crown of the Anvil, kicked off his makeshift snowshoes, and dropped his pack into the light cover of snow the wind had left in its wake.

"Made it," he said softly, then paused to blow into his fist.

"'Colder' hell, snow up to my ass, but damned if I didn't do it. Old Harry's still got what it takes."

A bit of snow, loosened by the noontime sun, slid from one of the high boulders, making a slushy noise as it fell. Harry whirled, his pulse pounding, his whole body poised for flight.

"Damn!" he said, after nothing more happened. "Wish I knew where they were. Probably not so very damn far, I betcha. Gotta get myself in gear—get the hell on with it."

He held for a moment in the side-pocket of his pack, found a small black box, tugged at it until it extruded a tiny antenna. Activating the transmitter, he propped it between two rocks, directing the antenna back the way he'd come.

"Can't say I didn't broadcast 'em a fair warning," he said. "That oughta scare 'em off."

He unzipped the top of pack, then upended and shook it, retrieving a long loop of webbing from the resulting heap of gear. Fashioning an anchor around one of the high boulders, he snapped the ends of the webbing together with a corderlease carabiner, and tied it off to the end of his last reel of Spiderlite. He stepped into his harness and clipped to the line, throwing his weight against the anchor to test its integrity. Satisfied, he kicked the reel over the edge, listening as its clatter died away in the buttresses below.

"Fifteen hundred feet," he said. "Ain't much rope, but it'll have to do. Have to bring it down for two, maybe three more pitches."

He put tension on the line again, then began to pluck the taut strand like a guitar string—two long, two short, three long, three short. When he got to five short, the code 'biner released the line smoothly, dumping him backwards onto the snow. He got up, brushed himself, clipped the line back in place, reset the code gate.

"Time to lighten up—for good this time, you sonovabitch."

He picked up the empty pack by its frame, swung it back to his side, then sailed it out over the edge. Other items followed, rattling down the rock wall, until at last all that remained of the heap was a cradle-pouch containing two dozen golf-ball size grey pellets, a voice-activated rappel rack, and some wedge-anchors and 'biners that Harry stuffed into his pockets. He eased one of the pellets out of the pouch, checked its markings carefully, making sure that he remembered how to orient it properly.

"Sure hope you little bastards got enough wallop," he said, gingerly returning the pellet to its slot.

He mounted the rappel rack on the line, clipped to his harness, and backed out over the lip of the Anvil.

"Down slow," he said.

Nothing happened.

"Shit," he said. "Rate one."

The rack, responding to the proper key phrase, loosened its grip on the line enough for him to walk backwards over the edge and down, bracing his feet to hold himself perpendicular to the pegmatite face. When he was 40 feet down, he spoke again.

"Rate zero."

The rack locked, stopping his descent. Harry paused to catch his breath, then began to swing back and forth across the

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rock face, scrabbling with feet and hands until the arc of his swing was long enough for him to reach one side of the massive block. Clinging with one hand to a finger-hold, he used his free hand to worry one of the pellets from the pouch, wedging it into a crevice. Swinging and kicking himself along the reverse arc until he reached the far side, he left another pellet, then swung back to the center of the Anvil.

"Rate two," he said, a little more sure of himself.

He was up to Rate seven by the time he'd used all the pellets and reached the base of the Anvil.

(FAIR WARNING! DETONABLE EXPANSIVE CHARGES ARE NOW EXPOSED AT OR NEAR SAN ALEJANDRO PEAK. SAFE PERIMETER 1200 YARDS. UNCODED ENTRY INTO THIS AREA MAY RESULT IN PREMATURE DETONATION. FAIR WARNING . . . FAIR WARNING . . . FAIR WARNING . . .) (WARNING!)

"—ber 602 to SAMS. Wilson, can you hear me? What the he—"

(FAIR WARNING! DETONABLE CHARGES ARE . . .)

"I read you Sully. Yell like hell, you'll override it. It's an automatic broadband warning—they use them at blasting operations. It almost took the speakers off the wall when it started. I musta jumped a foot."

"Is this real? On top of everything else, now I've got a nut case up here with some kind of a bomb?"

"Beats me. But I'd sure treat it at face value if I were you. Your boy Harry's had enough high-priced tricks up his sleeve so far that one more like this doesn't seem too far-fetched. I'd haul out there."

"Damn! OK. Put out a recall to Charlie and Joan."

"What are you going to do?"

"I don't know. Wait it out in the shelter and see what happens, I guess. Damn, damn, damn! (WARNING . . .) 02 out."

"SAMS out. KX3-44-55."

Wilson Clement turned from the console, laced his fingers behind his head, and leaned back in his chair. Sonovabitch, he thought, that old buzzard sure cut things close. Just wait'll I see him. He smiled, leaned forward again, and punched at his keyboard. On the SurvStat screen, the thermal traces slowly faded and winked out.

"Rate zero."

Harry dangled beneath the overhang of the Anvil, rotating slightly in his sit-harness as the Spiderlite relaxed its last vestige of coil imprint with the growing warmth of the day. Below, he could watch dark streaks work their way down the jagged granite fingers as their snowcaps began to melt under the early afternoon sun.

"Almost time for the big show," he said, but somehow, now that everything was in place, he had no sense of enthusiasm, of mission accomplished. He looked up at the Anvil, hulking above, but his thoughts went beyond, to a place—someplace—where he knew Sully must be waiting.

"Gotcha," he said, but his voice was dull, and his shoulders drooped.

What's the point, he thought. Not like it was in the old days, when Sully-me-boy woulda raced me five miles cross-country with only a compass, and the guy who came out of the trees closest to the station won bragging rights for the week. I win this time, but it's all gadgets and hardware. Hocus-pocus tricks out of a magician's hat.

"Them snowshoes was pretty good, though." He smiled

wistfully. Now comes the biggest hocus-pocus of them all. The Harry-the-Martyr trick. We'll never see poor Harry again. But some guy who looks a lot like him is gonna be taking life easy in a little cabin on five acres of woodland up near the headwaters of the Columbia.

Suddenly there was a cascade of thoughts in his mind—his two sisters who'd died from cancer, the pain in his own stomach, his suspicions about the physicians who assured him it was only an ulcer, the futility of his last few year's existence, the elation of returning to San Alley, the sense of lost camaraderie he felt for Sully.

"I shoulda stepped out of the bushes and shook his hand when he came past me on Bonebender yesterday," he said, rubbing a trace of moisture from his eyes.

Wonder what Sully would do if it was him putting on this show up here instead of me?

He looked again at the granite needles below, thinking how easy it would be to rappel only another hundred feet or so, find a good ledge, rest—and wait. He could use a nice long rest.

Wonder if Sully would do it for real?

The tiny squib, responding to a modulated firing signal, released its drop of initiator in the center of the grey pellet. In concert with its companions up and down the rocky wall, the pellet seemed to melt, then flow amoeba-like into the crack, searching out and filling the tiniest fissures, seeking a path toward the very core of the rock along almost microscopic channels left by the contracting magna so many millions of years before. As a critical depth was reached, a second stage of reaction began, sucking oxygen from the granite itself, encapsulating the gas like a swelling balloon, and penetrating even deeper as the depleted stone crumbled before in its inexorable expansion.

With Joan and Charlie on their way down to the station, Sully paced alone in the confines of the Overlook shelter, listening to the warning repeated over and over on all his Statlink channels. The new sound began like a muted ringing in his ears, almost indistinguishable from the background of wind, but rapidly building in intensity to a shriek like that of a swooping hawk, the scream of an air-raid siren, the dying blast from the whistle of a foundering steamer, culminating in a shattering thunderclap so fierce that Sully thought the shelter itself had been blasted from its foundations. The mountain swayed under his feet, and he clutched at the wall for support, his palms slick, his throat constricting.

Sentricks' Anvil, intact, broke away from the peak and began a juggernaut slide down the massif, grinding and crushing everything in its path.

"Now for the latest development in the Harry Mattawan story. The Channel Six news has obtained this exclusive footage from the West Coast weather satellite showing a massive chunk of rock breaking loose from San Alejandro peak. This next picture shows this same chunk resting atop a pile of rockslide rubble far down the mountainside. We have now in our studios Professor Orin Hamilton from the State University Seismic Center. Professor Hamilton, could you tell our viewers whether this is a natural phenomenon or a man-made one?"

"Definitely man-made. Close examination of the traces from our geos seismic satellite indicate that the slide was initiated with high-powered penetrating expansive charges. Expansives function by the slow controlled release of high density gases with shock-stabilized surface tension cloud

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restriction, and the theoretical force behind any given charge of properly directed expansive can be calculated from the . . . ”

“And thank you, Professor Hamilton. Ladies and gentlemen, we at Channel Six news team believe that this gigantic stone monument marks the final resting place of Harry Mattawan. Our hats go off to this gallant mountaineer, who has died so bravely for the cause he believed in.

“In related news, Governor Edelen, under growing pressure from the Mattawan Defense Fund lobby, has refused to recertify the Super Sierra Commission as administrators of the Limited Access Law, resulting in a de facto suspension of most park entry restrictions. Several other members of the Coastal and Rocky Mountain League of Governors are expected to follow suit in their own states. The Federal Park Service is still maintaining its administrative policies unchanged, although Joseph Garing, head of the Super Sierras, is believed to be in Washington preparing to face a congressional hearing. “Meanwhile, in other news around the state . . . ”

Sully Amberson slipped off his skis and climbed the last few feet through the jumble of boulders that marked the peak of Mt. San Alejandro. The wind was up, 15 or 20 mile gusts, nipping at his cheeks, but the chill factor was still a few degrees above freezing, and the remnants of snow were melting slowly under the late afternoon sun. Sully scraped the slush aside with the side of his boot until he found the bronze melting marker left by the last Geological Survey Team. 12087 feet.

Well, he thought, at least that much hasn't changed.

He turned to the north, squeezing between boulders to step onto a slight overhang where he could peer down along the raw rock scar at the debris far below. The mountain—his immutable, inviolable, all-powerful mountain—had proved to be less vulnerable than himself. He could only smile and shake his head, remembering his fear, although it had long since dissipated during his final climb to the peak. The mountain hadn't really changed. A bit of stone relocated, but a queen is a queen, no matter how she wears her diamonds.

Sully backed away from the edge, smiled again, then frowned. So the rabbit won the race after all—and dug itself one helluva hidey-hole. A pretty damn lucky rabbit. Or a damn unlucky hound on its tail. Almost too damn unlucky.

“Honest, Sully, how was I supposed to know those power skins weren't fully charged? I took both pair right outta fresh boxes—I never thought to test 'em before I stuck 'em on the skis. Anyhow, they still worked like ordinary skins, even if you couldn't do high-speed uphill.”

Almost too . . .

“I never saw him come past the shelter, Sully. I was watching the low side, but I really was only guessing where the trail was under this snow. It never occurred to me he'd come up and over to get past me on the high side, or I'd have grabbed him for sure. I really would have.”

. . . damn unlucky.

“Sully, I was so busy trying to pinpoint the exact location of that warning signal, I didn't realize I'd cleared the thermals and wouldn't be able to spot him again. I must have keyed something wrong. I mean, it really shakes you up when an automatic broadband starts telling you the top of the mountain is about to be blown off.”

Sully turned to retrace his steps, but a bit of color caught his eye. Clambering down, he found a loop of webbing and a carabiner firmly anchored around one of the granite crags that formed the upper edge of the newly exposed rock. He

unhooked the 'biner, clicked its gate with his thumb, felt it lock, felt it resist his attempts to unlock it again.

Now why, he mused, if a man was going to build himself such a monster of a last resting place, would he need a release to bring his line down with him? Harry, you old rascal, I know you beat me in this race—but have we been running on the same track?

He stuffed the webbing in his pocket, and snapped his Statlink off his belt, twirling the carabiner around the index finger of his free hand.

“Robert 602 to SAMS.”

“This is Wilson at SAMS. Go ahead, Sully.”

“Our rabbit left one last little track in the snow.”

“Oh, did he? What'd you find, Sully?”

Sully stopped twirling the 'biner, looked at it thoughtfully, then peered down again at the remnants of the Anvil, perched like a giant casket on its bier of crumbled granite. Harry, I do believe there's gonna be more winners in this race than I thought—and I just might be one of them myself. I guess maybe you taught me one more lesson.

Smiling, he drew back his arm, cocked his wrist, and threw the shiny bit of metal as far as he could, watching it fall and fade away into a tiny dot. He listened carefully, but it must have landed too far below for the sound to come tinkling up to him.

He thumbed the transmit button on the Statlink.

“Nothing much. Just a scrap of webbing he must have used for an anchor. No other sign of him. Robert 602 out.”

State Highway 86 is no more. It was renamed Scenic Way AJ806 shortly after the fence rimming its upslope shoulder was erected to seal off the western perimeter of San Alejandro State Wilderness. It is little used today; few people want to stare at a lush mountainside rendered inaccessible by a ten-foot barrier of monocrystalline alloy wire topped with razorloop. John Appoleon, squirming in the unfamiliar driver's seat, pulled his black limousine to the shoulder and switched off its lights. Wilson Clement, carrying a pencil flashlight, opened the passenger door and crunched across the gravel to the gate marking the trailhead of Deer Lick Trail. He keyed the lock release code into his Statlink, and waited the few moments for the station computer relay to cross-check both the code and his personal identification. Then, in response to his signals with the flashlight, a figure detached itself from a darkened splotch of brush and walked the last hundred yards down the trail to the open gate.

“Christ,” said Harry, taking off his goggles and shifting his coil of Spiderlite over his shoulder before reaching for Wilson's outstretched hand, “Am I glad to see you. I was beginning to think you were never coming.”

“Sully kept us in a debriefing session until there was barely enough time to catch the last lifter down. We got here as fast as we could. Couldn't you monitor what was going on?”

“Hell, no—lost my radio two days ago.”

“So. Well, that explains why you cut things so close. Come on, lets get out of here.”

The momentary silence was broken by John Appoleon slamming the car door. He met Harry halfway to the car, pummeled his arm, slapped his back.

“You can't believe everything that's happened, Harry. It's like a damn roadgrinder opening up the parks for everybody, better than we ever hoped. You're an honest-to-God All-American Hero. The LAL is in the scum-dumper, with the SS in behind it, and Joe Garing has run off to Washington

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crying 'Mommy, the big boys took my ball away,' but nobody's listening."

He waved Harry and Wilson toward the passenger's compartment, eased himself behind the wheel, and started the engine. Harry tossed his Spiderlite on the seat, leaned back into the plush cushions.

"Damn! Sure does feel good to rest my butt on something besides a rock or a pine stump. Been one helluva day. Bring anything to drink?"

"In the fridge," said John. "Milk, seltzer—you name it." "Got any beer?"

"Hey, what happened to your ulcer?" said Wilson.

"Found a cure for it," Harry grinned. Yeah, raw deer meat and a shot of altitude sickness. That'll do it every time.

"Well, I told you the fresh air and sunshine would fix you right up," said John, glancing back to inspect Harry in the dim light of the overhead panels. The man he saw had the slump of fatigue in his shoulders, but his eyes were bright, and the lines in his face were somehow fewer and less deep than John remembered. "If you think you can handle it, we got champagne, beer, the works. Anything for Harry the Hero."

"You mean Harry the Dead Hero, don't you, John? I'm supposed to be that poor old man of the mountain who martyred himself for the cause, ain't that right? Everybody loves a dead hero."

"Well, not quite everybody," put in Wilson. "About half the people we listened to on the way up here want to build a monument for you. The other half want to dig up your body and lynch it. Despoiler of the wilderness. Destroyer of a major landmark. Creator of an ugly blemish on the beauty of the mountain."

"Hey, that wasn't my idea," said Harry. "That was yours, John. Make a statement, you said. Bi-i-i-ig statement. You're the one had enough money and connections to get you hands on those damn expansives. And you stand to make plenty more money if the parks really do get opened up again."

"Listen, old man," said John, "if it wasn't for my money staking you to all that high-priced gear, you'd have never got in there in the first place. Or if you had, they'd have caught your ass so fast it'd have made your balls rattle. You were so eager to get back in the wilderness and play the world's oldest junior ranger, you'd have carried a nuke if I'd given you one.

And I told you from the very beginning that ISE stood to bag big sales if this worked. I'm a businessman first. Wilson's the one who's all high-minded ideals."

"Look," said Wilson, "Don't concern yourself with my ideals. You two want to fight—fine. Leave me out of it."

They rode on in silence, until at last the parallel white and red slashes of light marking the freeway began to be noticeable over the guardrails to the west. Wilson picked up the coil of climbing line, fiddled with it before he spoke again.

"You have any trouble making it down to Deer Lick?"

"Nope. I found a good ledge about twelve-thirteen hundred feet down, laid me a tight new anchor, punched that ol' detonator signal, and did a Rate 10 crescent damn near like free-fall. Ended up right smack in Deer Lick Canyon, no more'n a mile above the trail."

"You sure got guts, Harry. All that rock on the move just around the corner from you. Suppose we'd miscalculated, and part of it came down the west face?"

"Oh, there was some little bits and chunks came bouncing down—enough for me to wish I'd hung on to my helmet. But nothin' hit really close."

"Speaking of close, Sully was right on your tail, you know that? If you'd taken a half hour more before starting the warning signal, he'd have caught you."

"Well, hell, how was I supposed to figure it was gonna snow—or that damn earpiece would fall out somewhere? Piece a junk. Anyhow, it was your job to slow him down."

"Oh, I slowed him down, alright. And I persuaded Joan and Charlie to help out a little."

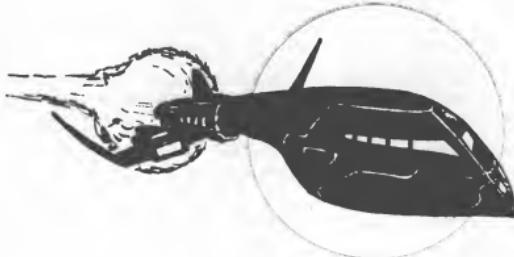
"You shoulda persuaded Sully, you wanted to do something useful," said Harry.

"Sully? Mr. Straight Arrow? Hah! I had all I could do to make it look good, and I think he was close to figuring out what was going on anyhow."

"Yeah, you're right. I taught young Sully-me-boy a thing or two in my time, and I never seen him do anything other than the best job he could. He'd do his rangering right down the straight and narrow, and I coulda been his daddy, but it wouldn't have made no difference. He'd have done his best to catch me anyhow."

"You can bank on that," put in John.

"You betcha," said Harry, "You just betcha."





## CRYSTAL CITY BLUES

by  
Gene KoKakko

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It was twilight over Crystal City, a time of turning when the red of Ri refracted from the clouds like a broken rainbow. The light shattered the old part of the city like fresh blood, pouring past vendors who sold Krillick and Snappers and Pedal Fish from their tiny stalls.

I stood alone in the shadows of the first tenement, near the mouth of an alley. All the old buildings stood shoulder to shoulder and the alleys were our pathways. The old women still hung laundry from the floors above and the alleys had a flapping, cloth roof most days that hid the sun. As children, Julee and I used to sit with our backs to the hard native stone and try to identify our neighbors by their clothes.

"There's old Guffey's unders," Julee said. "See the big back pocket?"

"That's his tidy-flap," I said, grinning, thinking of old man Guffey running down the line in Crystal City, shouting orders at all the chip makers. "Focus down on that, now!" he'd shout, or, "Keep that line moving — this is our future you're building."

But it was a lie. Every child in the slums around the bay knew it. Tanaka Corporation only built its own future with those silicon chips and crystal entertainment cubes. The people piece-shared their lives away, growing old and cancerous from the hidden radiations in Tanaka's cheap processing.

Still, it was all that they had. Julee and I had each other, we had a lifetime of shared memories. "Never forget the good times," she often said.

But Julee had forgotten.

Standing in the shadow of my past I watched the Blues circling the Bazaar. Their narrow steel faces were somehow birdlike, great round eyes above a steel beak. They'd patrolled our childhood and followed us into adulthood, the silent enforcers of Tanaka, Incorporated, and I'd never doubted their authority until now. Until just recently, a man patrolled with them, leading the little triumvirate with a touch of human softness and charity, speaking openly with the vendors and the tenement dwellers, making little jokes about the weather or the food for sale, sometimes plucking a ripe Pomepear from a stand. But lately... Something had gone hard in the soul of the corporation. Something had replaced the blood-driven thump-thump with a silicon crystal.

New contracts, it was rumored.

New blood back on Earth, some said.

I didn't notice it until Julee changed. Hadn't cared. I worked the big line in Tanaka Main, sorting with a quick eye and hand the flawed chips among the perfect. I'd done it for years, since my 18th turning, and it was rote for me, a kind of habit almost like breathing. Julee used to work the line, too, but they pulled her six cycles ago and put her to work in the new crystal division.

She couldn't talk about it.

"Part of my new contract, Turk," she said. "More credits but I have to keep quiet."

I teased her but it did no good.

She turned more than quiet, though. She turned forgetful. The girl I'd grown up with, the girl I'd pledged to, the woman I was to marry grew vague and listless, restless and unhappy in some way I couldn't explain. Then the unhappiness disappeared and she seemed almost her normal old self. Her face glowed with some inner light, like a child with some new knowledge. And she began to forget the old. I was the old.

It was killing me.

The steel Blues plowed through the crowds around the vendors, and I moved off from the shadow, skirting the booths and stands, keeping them between me and the steel men of Tanaka. Their great eyes seemed to search for me as I worked my way toward the first boulevard that led to Crystal City.

"New cards today. Don't begin your shifts until you pick up your new cards!"

The foreman's voice was a red-faced shout as he worked his way down the on-shift line. Kepler was old enough that his fringe of hair had turned almost white, giving him a sainted look in the light from the overheads. Julee had taught me about saints from her old world book of religion. She'd also taught me of demons.

"Isn't it pretty, Turk," Kepler said, handing me the new card. "Hold it to the light there, and twist it just a bit. That's it. See how the holo comes up?"

I held the card in my right hand and turned it in the light, watching the City grow on its slick, synthetic surface. All the buildings of Tanaka Corporation lay sprawled in my hand, even the Gothic spire of the business office. It rose from the card like a magic trick, glimmering dark blue in the clear air.

"That's something, huh?" Kepler said.

"Why do we need new cards?"

Kepler stopped. He was a short, little man, but his eyes were hard. "Security," he said. "There's been thefts."

"Not from my line."

He stared at me. "No. You're a good boy, Turk." He patted me on the shoulder, almost affectionately, then moved on down the line.

I stared at the card again, searching out the place where Julee worked. Usually worked. That morning, when I'd stopped by, she sat in the corner of her father's sitting room, staring blissfully at the light.

"Julee? Are you going to work?"

No answer. She turned, though, her head at an odd angle in the light that streamed through the window. Her eyes, I thought, searched for something. But it was something she'd lost on the inside. As if a thought had gotten away from her and she was busy chasing it around inside her mind.

"She's been sick," her father said from the door to his bedroom. "I'm calling her in, Turk."

We stared at each other, Julee's father and I, with nothing more to say. He'd never liked me. Never liked us, much, as a pledge.

The buzzer growled, two short blasts.

"Move to the line," Kepler said. "Insert your new cards

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first. And remember to use them in the clocks next shift or you won't receive credit!"

I moved to the head of the line and fitted the card in the slot. In front of me, my window opened and I stuck my hands through the transparent places, into the flimsy waldos. The helmet came down from the line machine and I pulled it over my head. The world turned blue. In front of me, on the conveyor, the magnified surfaces of the silicon chips floated by. Through the helmets optics, I searched each for tiny flaws. There. A diode out of line. I manipulated my robotic hands — fingers as slender as needles — and plucked the chip from the batch, tossing it farther in, where it would be picked up and recycled.

Over and over.

In the left corner of my helmet, the shift clock blinked away my life.

Ri had not yet risen when I came off shift, and the bay around Crystal City roiled dark and ominous. The City was connected to the Outlands by a narrow steel bridge. I carded out at the big ornate gate, passing between two Blues. They twittered in their own high-pitched computerese as I passed, barely taking notice of me.

The air had a ripe tang to it, as though all the Krillick had died and floated to the top. They hadn't, of course, but I'd gotten a case of the glooms thinking about Julee and how I missed walking back to the tenements with her. After traversing the bridge, I stopped at a vendor stall and bought her a Halcyon Amaranth. The flower was genetically designed to bloom with the rising of Ri, and if I hurried, I'd get it into Julee's hands before it started to sag.

I took the first alley off Bridge Street. Around me, the tenements rose in stacked wonder. To stare up too high was to see too far into the perspective. Staring up, the buildings would look as if they'd grown together — as if they leaned upon one another for support. It was a trick of the eye, but it never failed to dizzy the looker. Only now, staring up, all I could see was the haze of light from Crystal City. Ri had not yet risen and the alleyways were dark as a nightside moat. From long years of habit, I caressed the rough stones and followed my feet's memories down patched, brick ways. It was narrow and it was dark and it stank of Krillick and Snapper, but there was nothing to fear here. That was the truth.

Then I crashed headlong into something that was moving fast from the other way — a way wrong for this one-way alley — and a part of the truth smashed me almost flat against a tenement wall. This truth was a friend, though we squabbled often about company politics. And this friend had about him the smell of a carouser.

"Your breath is lethal this morning, Quarif." I knew him not by his breath but his outfit. Blue helmet and goggles and silver vest. He was the man who usually led the Tanaka Blues. "How goes it?"

He held me hard against the wall, or tried to. Quarif Halfa was more than half in his cups. As he tried to focus, I could see that it wasn't a happy intoxication. His eyes, behind the large mirrored goggles, were nearly invisible. But I could imagine they swam in a chemical sea of mournfulness. The rest of his expression said this, the way he leaned almost desperately against me, to hold me in place. Or to keep himself from falling.

"It's wrong," he said. And, the words out, he stood shakily and abruptly left me in the predawn darkness. Wondering. But knowing at the same time. Because surely something was

wrong in our world, Quarif's and mine. Had been since Julee went to work in Experimental.

The air was cold and I shivered as I walked on toward Julee's ten. The Halcyon Amaranth looked pale in the first glimmers of Ri, as the sunlight worked its way down the cracks between buildings. Maybe Julee wouldn't notice its fading. She'd noticed little lately, it seemed.

She still sat in the corner. Still stared out the window. At what?

"An Amaranth for my pledge," I said, handing her the blue bloom, which was just now bursting into full life.

She stared past it. Past me. I looked up in time to see her father standing in the doorway. He hadn't shaved or brushed his hair, and his clothes looked slept in. He opened his mouth to say something, then must have changed his mind. He shut it with a decisive snap and turned and made his way through the door of the flat. I could hear his heavy tread down the rickety tenement steps.

Her father was day shift at Crystal City. He ran the same line I did, only he worked more in virtual. A hallucinatory job, I'd always thought. Virtuals sooner or later grew neurotic. Their eyes had a tendency to glaze over and they made strange gestures to themselves. Maybe that was what troubled the old man. His job had taken his sensibilities.

I sat down, near but not touching. Julee looked fragile this morning, the way a person used to sleeping at night will when they are denied their rest. Her long brown hair hung in tangles down her spine. And through her one-piece, I could count the vertebrae. Always thin, she had grown thinner.

"How are you feeling?" The words sounded too formal for pledged lovers, and I licked my lips to find them dry and slightly acid-caked from anxiety.

She turned from the window as if to sneak a glance at me. But it wasn't shyness. Neither was Julee precocious. In her eyes there was still that haunted look, as though she stared inward in search of missing pieces.

"Julee? Did the doctor come?"

She said nothing. A small twist played with her lips, as if she couldn't quite make up her mind to smile. One hand came out and touched me lightly on the shoulder.

"Yes. I know you," she said. That inward look again, for things lost. And then I lost her to her own thoughts.

I moved closer. "Yes, me. Remember me, Julee. We're pledged. We've picked our ten and everything. It's on the new side of the Outlands, past the steel bridge."

Nothing glimmered in her eyes, though her left hand seemed to tighten. I picked her hand up and held it in mine. Blood curled around the hard edges of her new card to Experimental's doors. With stronger fingers, I pried the card loose. The hand clutched convulsively at the missing card. I placed the long stem of the Amaranth there, and she crushed it in her grip, the soft thorns digging new insults into her flesh.

"You should let me clean and wrap that," I said.

She shook her head and clutched the stem harder and pressed her face to the window. Ri streamed through the tenement cracks and painted her face with rosy heat.

"Let's walk, then. Let's walk past our new ten."

Her spine went rigid, her gaze locked on something I couldn't see.

We sat like that, in stillness, for a long time.

Hunger and fatigue finally drove me away. I wound down the familiar alleys of Old Tencment Town, making my way home. Along the way I stopped at a vendor stall and bought my breakfast. Two fat Krillick and a ergo root. The vendor

## Crystal City Blues

was old and had an artificial jaw. His crystal teeth gleamed in Ri's bright light as he punched my credit into Tanaka's big register.

"Have a good feast, young Turk," he said through artificial vocal cords. His voice sounded raspy yet harmonic. His eyes glittered, even though his hand shook as he wrapped the fish and vegetable.

"Have you seen Quarif?" I asked. "I mean, just recently."

The glitter faded. The jaw lost some of its stubborn and ferocious look. "Oh, yes. Sad, that. He was beat up this morning — looked terrible. Bought his food same as you. Said he had dayshift — and he'd just come from a hard night." The old man shook his head. "He acted strange. Not like the Quarif I know at all."

I walked off, more puzzled than ever.

My ten looked like everyone else's ten, except it was even older. My grandfather had been one of the original colonists of the *Madagascar*. They opened up the system with egg ships in tow — the first three thousand, with ten times that number in the hyb banks, and ten times that number in frozen vitro. Tanaka had built Crystal City and surrounded it with the Outlands, and those first tenement buildings were solid and squat. Mine sat almost crushed between two that were newer.

Every day of my life, I'd climbed the five flights of stairs to my rooms at the top. Every day that I could remember, at least. How much our lives depend upon memory.

Inside I cooked the old fashioned way, frying my Krillick and large root in salt and vegetable oil. As I ate, I stared out the window, wondering what Julee saw out there. Like hers, mine faced another wall. Other windows. People's wash. People's lives plainly hung out on a line, and still the people were close mouthed about their personal lives. Almost unsocial. Maybe it was a defense system we all had. Even the young like Quarif and myself were self contained. But we didn't wind up staring out windows. And we didn't forget who we were pledged to.

My eyes burned with my loss.

My muscles were still cramped from my shift, from hunching over my equipment, and I pulled the weight system from my wall closet. Three sets of everything helped clear the kinks and replace the cramps with muscles that burned and arteries that once again sang. Usually, when our shifts coordinated, Quarif and I worked out together. When he wasn't stoned. Only it wasn't really like Quarif to get stoned. At least not before a work shift.

I put the pulley system back in my wall closet and stepped in for a quick sonic shower, then changed to skintights and a padded silver vest. Almost Quarif's twin in dress, I stepped down the hall, to Quarif's rooms.

His door was coded shut, but I knew the code. I fingered the numbers into the lock and went inside, softly closing the door behind me.

Gloomy. He'd curtained his windows and cut off what little light there was.

I walked through the detritus of Quarif's life. Clothes hung from a flex cord across one corner. Small kitchen. Dishes in the sink, unwashed. Smaller bathroom. Wet towel hung crookedly. Usually he grabbed a sonic — unless he'd really worked up a sweat. Huge entertainment system in the living room. Part of this was new.

Squatting down, I looked through the system. Standard holo receiver. Sensi-round feely system.

Inside a rounded cabinet I found a codeclocked compartment.

Getting tricky in your old age, Quarif, old friend? I tried the standard code. Didn't work. Thought of what else it could be. His bank number, which I knew because I sometimes made deposits for him, as he did for me.

Click.

My gaze stuck, then drifted away. I didn't like what my eyes could see. Pretty little crystal cubes for the holo and feely, but something insidious in a black case next to them. Vein poppers. Air syringes. Laid flat like little darts all in a row. All labeled with some kind of code.

I tried the crystals first.

Julee's face loomed in the air in front of me. Typical holo trick, only why it was Julee I had no idea. The sounds were not typical at all, but were subsonic, an electric buzz that made my skin tingle all the way through the muscle to the bone. A kind of sexual ecstasy ran through my chest and abdomen.

I shut it off.

Quarif. You wharf rat.

I eyed the poppers. I hated the things. On any corner in any shadow in the Outlands, one could purchase poppers. But not Quarif. Why would he indulge in injectable drugs? He was a health freak; we worked out together.

Shakily, I held one up to the light.

Tiny cylinder. Microscopic hole in one end. Just press it to any vein and ...

No.

Except I recognized the code on the barrel, but I couldn't remember from where. Then I remembered. I'd seen the same numbers just a few hours earlier, on the new card Julee had pressed so tightly into her hand. I remembered the thin line of blood, as if clutching it, she could absorb it. And I had to know. Remembering that much — her haunted look and her slipping into her own mind — I had to know. I leaned back against the big shifter, letting it form around my body, and pressed the microscopic end to the flesh on my inner elbow.

It hissed.

Or did I imagine that?

I closed my eyes and let the shifter caress my back. The inside of my head exploded. Suddenly, there was a bright, red morning sun and a sandy beach. The sun was already warm, and the water licked at the wooden pier that extended out into the bay. I could hear a sand sifter as he rustled beneath the white pebbles beneath our bodies. Julee was pale, except where the sun had touched her skin and raised the color. Her embrace was warm and full of promise as she whispered in my ear. The scene shifted and I saw myself, broad through the upper body from the workouts. My short brown hair rustled in the breeze off the bay.

"And then we'll redecorate our ten," Julee was saying. And her words moved along my synapses like sparks. Her touch and her smell and ...

And it would have fooled me, if I hadn't really been there and known better. If I was Quarif, or any citizen, I would have lived the memory in full detail. But I had my own memory of that day, and it differed, as all memories probably do, from Julee's. The light looked slightly brighter in hers, and the day felt slightly warmer, and the words were wrong. Or my memory of the words were wrong. They were probably right, I realized. For this was Julee's memory. The real thing. What her brain held. Extracted and packed into a chemical neurotransmitter that now lied down the gateways of my brain.

"No!" I heard myself scream.

Such an invasion of a life. My life, her life. Our life. Julee how could you? And I realized she could not, would never,

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that it had to be something else, something they were doing in Experimental without her knowledge.

I shook my head, but the memory ran on. Lodged there. Mixed with some euphoric that made my limbic system buzz with false happiness.

When it eased enough that I could move, I gathered all the little darts with Julee's code imprinted on the barrels. Next to the holocubes lay Quarif's spare pistol. The weapon was double-stacked, with sonics on the bottom, for stun, and a powerful laser on top, for kill. The butt felt warm, even through my gauntlets.

I left in a sprint, not even bothering to shut Quarif's door. Old men stared as I ran through the Outland Bazarr. "Turk!" one called, as I ran past. But I didn't hear the rest of his words.

Running and thinking, one automatic and one a process I tried to concentrate upon. Julee, by the window, her eyes looking out but looking in? As though she'd lost something important in her own mind?

What had the process cost her?

Did they synthesize her real memories at the cost of forgetfulness? Had she known? Had Tanaka tricked her?

I took her tenement steps three at a time, the blaster out and ready.

But no one was on the staircase.

I ran upstairs, to her third floor door, and burst in.

She didn't turn from the window this time.

My own breath came harsh and rasping.

"Julee," I said.

She turned at the sound of my voice. Her eyes didn't know me, though. They stared from her skull as vacant as a child's.

I wanted to shout and scream at her. "We're pledged! Damn it all, we have a life, remember? We planned a great deal of it on that little beach by the bay. And you've sold the memory!"

I held out the slim dart-like air poppers.

She stared at them with hunger in every feature. Her eyes suddenly came alive and her mouth twisted in a look of need. She reached out and clawed them from my hand—

Maybe I would have stopped her. Maybe not. But the hallway exploded with the sound of strong wood snapping. There was a deep curse, then Quarif's voice rang out.

"Wrong! Wrong is wrong!"

Then the not so subtle feel of sonics made my bones vibrate. Nerve endings stood up in my tissue and screamed.

Hunched over in pain, I moved to the door and out into the hallway.

Quarif stood four steps above the landing below. He shouted back down, and I leaned over to see who he was yelling at. Two Blues, their steel, beaked faces and their big eyes, stared up at him. The one on the right aimed his blaster and a bright flash lit the darkened hallway like summer lightning. Quarif half turned, then tumbled backwards, ripping out the railing. He lay on his side, legs twitching.

By then I was more than halfway down the stairs. I jumped the last two meters, and bent over him.

The Blues stood on the stairway behind me, very still, like animals in an old print my grandfather had of dogs, pointing.

I leaned over him.

His face contorted with pain. "Tell Julee I'm sorry," he said. "Tell her I didn't know what they were taking until it was too late."

And he went very still.

The Blues hit me with their spotlight.

"Hold," one said.

And I should have. No one fought with Tanaka's Blues. But then, sometimes, things just happen. We follow some impulse stronger and maybe truer than good sense. I stood slowly, straight up, the blaster in front of me.

I heard them separate. I turned and hit the Blue in back with the first pulse. The Blue in front was confused, just for a second. Just a second too long. The second pulse burned through his birdlike face, below the great, searching eyes. The eyes seemed to go out, like bright lights all at once extinguished in the dark, and he fell at his partner's feet.

"It's going to be all right," I told Quarif. Though I knew it was not. Quarif was dead, and so were the Blues, and so was Julee's memory of me?

No.

I walked easily back up the stairs.

She sat on the floor, injecting her own memories.

"Julee."

"Turk. Oh, thank Ri. Oh God, I've been... so lost."

I lifted her to her feet.

"Pack your bag, the big one."

"But—"

"Please."

"There's so much to tell you."

"While we're moving."

"But where—?"

Anywhere, I thought, leading her down the stairs. The sight of the bodies made her lean in closer to me. "I was just trying to make some extra," she said. "For our new ten. Quarif said he knew a way, said he knew someone who worked in Experimental. What did I do?"

I led us past the dead. Down the stairs and out into the alleyways of the Outlands.

"You almost sold a part of yourself that was us. You almost sold too much."

She looked at me with terror in her eyes, as she clutched the air poppers in her free hand.

"Where are we going? Are we going to the new ten?"

I pulled her toward the south side of the Outlands, away from Crystal City. I'd never been out of the city before, but this was a big planet. A fairly new planet. There must be something more than a squallid square ten kilometers of tenements around the Tanaka Complex.

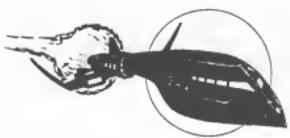
"Turk."

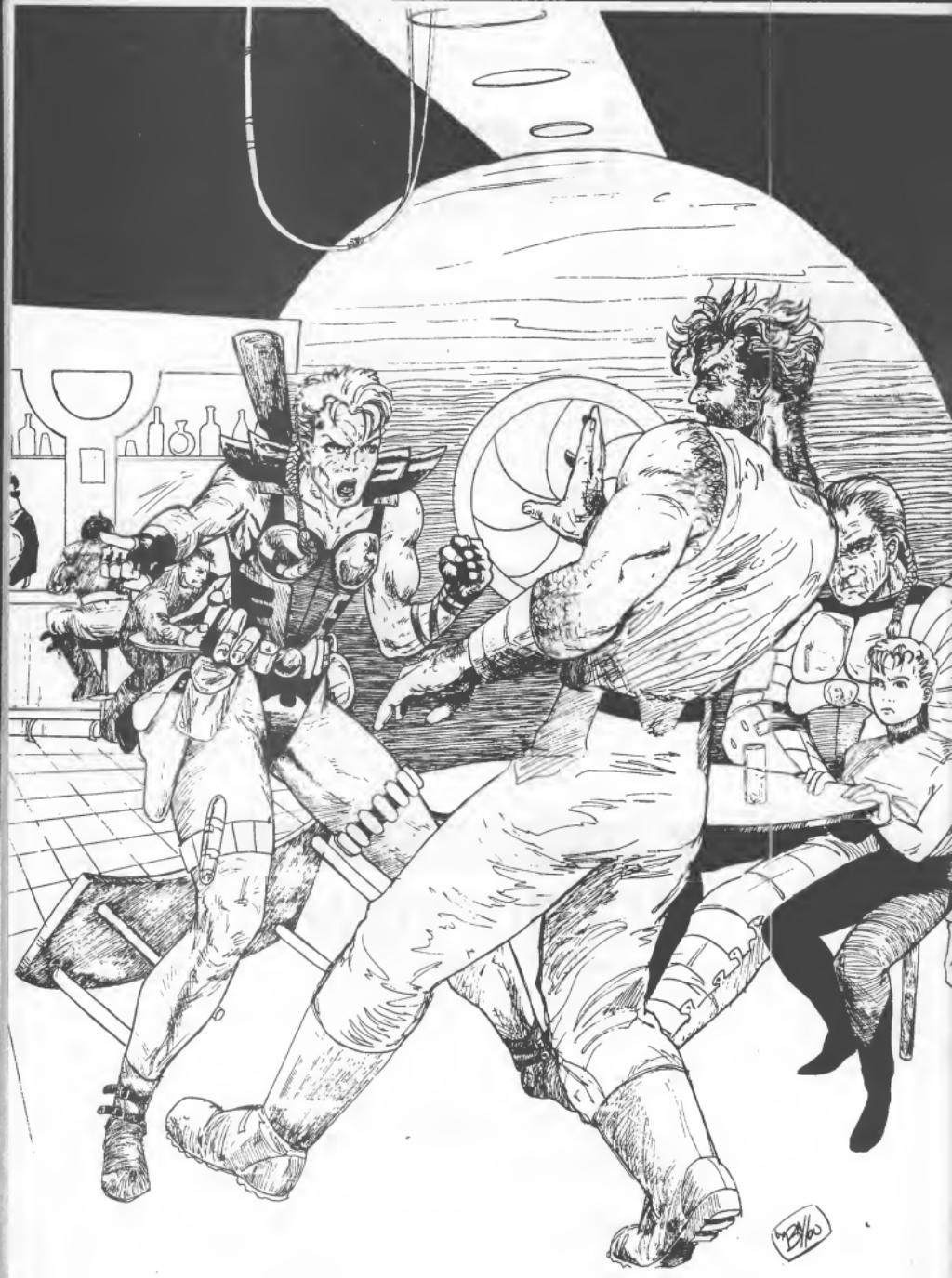
"Yeah."

"I'm scared."

I tried to smile, but my mouth felt frozen. "So am I, but we'll find a way. Just don't lose those poppers. I don't want you forgetting who I am, again."

She smiled, and I tightened my grip on her hand, and we walked from the city with the great red sun of Ri at our backs.





## LEFTOVERS

by  
Denise Lopes Heald

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*"Not responsible for women left overnight."* Saasha read the bar's entrance placard while holding the door iris dilated for me. "Left?"

"Forgotten." I grinned.

She glanced at me slantwise. I straightened my face and limped past her. It *wasn't* her kind of joke. One didn't *leave* her anywhere—never *forgot* her—and being a man won me no points.

Plinky music, gray molded walls and staring eyes greeted us. A big tank mixer full of red brew sat on the bar wafting a fruity tang that *almost* overpowered the more pervasive scent of honest, sweat and old cooking grease. An early evening crowd packed the place's doughnut tables and lined the bar's counter. Farmers in sleeveless sweat stained bodysuits, hugged the walls, and a sprinkling of cleaner, better dressed locals—merchants, clerks, techs—filled the center of the room.

What were we doing on this dirt digger planet?

Armed and armored, we both stood out *a bit*. But Saash drew the longer stares. All muscle and bone, hard as rock, she wasn't pretty. But she moved like no other woman her size—quick and graceful, her skin aglow, muscles rippling, eyes big brown rounds circled with feathery lashes. At first sight of her, I'd debated myself between trying to bed her and running like hell.

She stared the farmers back.

"Is he here?"

"No." She stumped to the bar—a red-molded M.

I limped after her. Grabbing a grazing platter and water tubes, she waved me to a table. "You alright?"

"Yeah." Why'd she have to keep asking?

Our last mission'd blown wrong. The therapy brace on my left arm pinched. My left leg ached beneath its brace. And the entire left side of my body was purpled from the shoulder down. And even after two weeks, I lowered into the form next Saash's slow and off center. She shoved water within reach.

I raised; the tube, using my left hand. The more I forced myself, the sooner reconstructed muscle would regenerate. Pain rippled from my elbow to my fingertips. Water sloshed. Saash rescued my tube.

"You've done enough today."

"You dressed me."

"I was afraid of what you'd wear if I didn't."

I tugged at my warrior's knot. She'd plaited it too, strange intimacy for the two of us. She turned away, her expression impatient. I forced the water tube up for another drink. Sweat popped on my forehead, but I pretended it didn't take every ounce of my strength to hold it up long enough to fill my mouth. I swallowed. The tube thudded to the tabletop. I sucked a breath.

"This *business* a prospect?" I kept my voice level, back breathing against pain.

"Not tonight."

She'd posted a system-wide ad two days ago for a replace-temp for me. At least she *called* it temporary. She hadn't found anyone yet. But she *was* looking. Those few

moments before the smuggler's ship blew, slamming me into oblivion, kept playing through my mind. I couldn't see anything I should have done differently. But maybe she could. Before this job, we'd been discussing a full partnership. The subject hadn't arisen since.

She sipped water and ignored me. I stretched my leg beneath the table, pumping the foot up and down, hoping she wouldn't notice. *Business*—my only clue to why we were on this fringe planet in a sand poor town waiting around a cheap little bar that didn't even provide table service.

I stared through the place's big front view lenses. Outside, a burly young couple dressed in matching, clay stained bodysuits strolled hand-in-hand. Walkers shoved past on either side of them—shopkeepers headed home, laborers hunting dinner. The couple ignored everyone else, smiled at each other, their day's work done, their lives filled with possibilities. Was mine?

Beyond them, trees hung dark about a shadowed public square. A produce kiosk stood wreathed in vines, white blossoms like tiny moons, framing a father and daughter as they purchased a melon nearly as big as the child.

"Enough, Nikolo." Saash's hand brushed my thigh.

I abandoned the leg exercises, not about to push her tonight when everything seemed so tenuous and both her solicitousness and fussing spooked me. Shifting my attention from the view lenses to the grazing tray, I popped a strip of pickled ploit in my mouth right-handed.

I'd awakened in Med to find her sitting beside me, when I knew she had business to complete. But she stayed next to me, held my hand, wiped drool from my chin and scared the meds senseless. A public service institution never treated me so well. But she pulled me out of therapy two days early and took it on herself to get me up and walking.

What was she thinking? Did her help stem from consideration or impatience? Tonight, I didn't understand her at all. She seemed too anxious to make this meeting. What had her worried? Maybe nothing. Maybe my imagination was running amuck, sick man's jitters. Partnered with Saash, I wasn't accustomed to losing arguments. Not that we'd *lost* this one, but almost—almost forever.

"Nik."

My bad leg started pumping on its own. *What if she'd taken the blast?* I envisioned her body flying through the air, armor flaming—

Her voice was low, taut, firm. I stopped pumping and watched the bartender polish drink tubes. His reflection in the wall mirror behind the bar watched my back. Sometimes he glanced down—checking a monitor, I assumed.

"There's a nice one next to the window, Nikolo. Maybe she'll kiss your oh-ohs."

I glanced up. A tiny little thing, dark as the dirt here and pretty as the flowers, smiled our way.

"She's skitting you." I shifted my leg.

"She's a sorry bitch then. Give me that tray." She grabbed a handful of crackers and stuffed them in her mouth, chewing

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harder than necessary just to subdue hors d'oeuvre.

"Saash?"

"It's alright." She swallowed, jaw relaxing. "Me and this idiot always fight. You just watch. Keep things honest, alright?"

She held my gaze a moment, her stare more personal now than our occasional physical play. It rattled me all over again. We were a team. She ran things, made the calls, I obeyed. When we finished the job, we went our separate ways, sometimes worked solo. Her sister handled the legal side of things, drew up the contracts, kept track of taxes, dues, whatever. The commission I paid them was well spent. But trusting Saash with my money meant nothing compared to the trust we assumed in the field.

What if she really *had* lost faith in me?

Something in her stare seemed as vulnerable as I felt. I looked away. She kicked me under the table—hard. I shrugged and forced a grin. She thumped my good shoulder.

"I think you just made the big mousher in the corner jealous."

"Yeah?" She smiled at the power plowboy.

He blushed scarlet. My smile slipped, and the dirt turned away—quick.

What the hell was I thinking? Why the defensiveness? I'd heal, could hunt my own contracts. It wasn't as if we were *lovers*. She didn't even pretend to *want* me let alone *love* me. But she always gave me respect, something hard to find in any system, and from her, worth more than a toss in a nest. Could she respect me and still fire me? There was nothing dishonest in it.

"He's here."

My eyes flicked to the door. A big man—my size—stood at the lens, dark hair shaggy, expression wary. A round-eyed, feathered-lashed kid leaned against his side.

My gut dropped. I took a deep breath, kept my face laser straight. The boy couldn't look more like Saash if someone molded him a mask.

The shaggy man steered him toward us. Halfway across the room, the kid broke and ran.

"Mamma." He burrowed into Saash's arms.

She scooped him onto her lap and buried her face in his hair. *Damn.* The man cruised to a stop next to them. My right hand—functioning on instinct—searched for a weapon safe enough to use in this crowd of innocents.

"Rex." Saash spoke over the boy's head. "You look like shit."

He shrugged. "You look good."

"Yeah. I do. This is Nikolo. *He* watches my back these days."

His eyes narrowed. But he didn't worry me, not even in my condition. His shoulders slumped, and his bodysuit was *overly* worn, noticeably malodorous, a man hard pressed, skin slack, eyes red, lids drooping. *Prey on the run.* When I saw that look on a target, I readied for the end.

"Nik." Saash nodded his way. "Rex the Tex."

*Damn. Rex.* Recognition shocked through me. A famous man. During the Mouflan Insurgence, Rex the Tex was a troop recruiter—until someone compared the number of assault teams he'd contracted against the number fighting on *our* side. Ol' Tex had been outfitting units with government funds, then renting them to the highest bidder—even the Mouflans. We were fighting ourselves. The news nets carried pieces on the *Tex Flex* for a year.

"Chee." Saash brushed hair from the boy's face. "Nik's

nice. You stay here while I talk to your father."

Even having guessed Rex's relationship to the kid, I flinched. Chee stood. I compressed my side of the table, making room for him. When I raised my arm, he slipped inside its arc, eyes wide, muscles tense.

Saash stood all in one motion, forcing Rex back, and waved to a far corner. "Over there."

She spoke so soft and easy that I knew nothing Rex was about to hear would be fit listening for the boy. No wonder she wanted me along. Even crippled, I could baby-sit.

"You alright, Son?"

Rex's concern sounded forced. But the boy nodded, relaxing fractionally, pleased by his father's small expression of empathy. Rex and Saash moved off.

"You Mamma's friend?" Chee turned in my arms, dark eyes bottomless. I nodded. "Good." He melted against me, tired, trusting *Mamma's* judgement explicitly.

"Hungry?"

I tugged the grazing tray nearer and shifted his weight off my left side. I hadn't held more than two or three kids since I became one myself. He was light and stringy, maybe six or seven. The locals' stares felt more sympathetic now. The appearance of a child bettered their judgement of us. Chee's head, warm and silken soft, tucked under my chin as I leaned forward. Snagging his mother's water tube, I handed it to him. "Watch out for that damn ploit." I poked a tentacle on the grazing tray. "I've got heartburn already."

His nose wrinkled. His lashes fluttered. My heart danced, sucker punched.

"You know, I haven't a guess what's going on here." I waved toward his parents.

He glanced up, mouth stuffed with crackers and vegetable paste, his expression betraying the instant confidence of superior knowledge.

"Dad made Grandma let him take me for a long trip. Grandma was real mad. I think Mamma's really, really mad. They're always mad at him. Dad's scared of her."

"Oh." His parents' expressions, as they conversed at their corner table, supported this assessment, and I thought of a hundred questions I didn't dare ask. "He take you some place fun?"

"No." Chee finished the platter's supply of paste crackers and started on finger sandwiches. "We just rode ships. Once we stayed in port long enough to see part of a zoo, but then we took another flight. Boring."

As a kid, I'd *dreamed* of spacing. But being Saash's child, he'd probably spaced at birth, and it was boring unless you worked the ship.

"How'd you hurt your arm?" He stopped feeding long enough to tap my therapy wrap.

"Ran too slow. A ship blast caught me."

"Whoaa." He spun on my lap, elbow catching my rib cage. I swallowed hard. "You got blown up?"

"I got blown off. There's a difference."

"Yeah?" His eyes resembled twin shimmer discs. "What difference?"

"You fall a lot farther."

I smiled. He giggled, then went serious.

"Does it hurt?"

"You might be careful of my ribs." I eased him right.

"Was Mamma with you?" Worry flickered in his eyes. "Yes." I couldn't lie. "But she stayed back." It wasn't much of a lie. I always worked point. "She's too smart to get hurt."

## Leftovers

"Yeah." He nodded. "She's too smart."

I glanced at Saash and Rex the Tex. Leaning over their table, fists clenched, face flushed, she didn't look smart, looked the maddest I'd ever seen her—and I'd seen her *Kill*. I slid the kid completely onto my right leg, turning his back to his parents.

"Want a peek?" I rolled the therapy wrap off my hand.

"Whoaaa. You look like that all over?"

"Not quite."

"Once I was chasing Hiamni Jenkenshymer, fell off a wall and landed in a garden on a prickly gloxias and got stickers stuck in my whole leg and my bottom and my elbow and my hair and everywhere!" He glaced up, anxious to impart the gravity of his story. "They got all infected and stuff, because I didn't tell Grandma, and I got a scar." He bit his lip. "You want a see that?"

"Yeah." I tried not to smile. "A prickly gloxias?" He nodded vigorously and whipped his pants leg up. Maybe twenty white dots—small and fading, but real scars proved his story. This was definitely Saash's kid. Gloxias spines hurt like hell—before they ulcerated.

"Your Grandma pretty strict?" I cocked my head. He nodded. "Telling right off still might have hurt less."

He shook his head. "It was her gloxias."

I bit back a laugh. "She beat you?"

"No. Made me listen to all twenty-nine *moral tenets* for little boys who don't mind their *Grandmas*."

I chuckled. Pain is so damn relative.

"I'd rather get ship blasted than face your Grandma."

He laughed. After that we teased and giggled. I told him about my Grandfather and Aunt Talya.

*Whack.* My hand dropped to the butt of my streak.

But it was only Saash, saying *goodbye*—with her fist. A new crack decorated the wall next to Rex's head, and he'd paled another degree. Saash spun out of her chair and stomped across to us.

"Close your ears, Chee."

Why not order him to stop breathing? But he clamped both palms over the sides of his head and put his nose on the table. How many tenets did Grandma drill into him to instill that obedience?

"I wanted a baby. I make no apologies for my choice of father's. He's the best liar ever."

I didn't doubt that, if he'd fooled Saash.

"He says if we leave him here, some very bad people will kill him tonight. He says he took Chee because he knew they'd never hurt the boy."

"You believe that?"

"No. He's using Chee to force me into protecting him. I'm not doing it this time." I wasn't about to ask about other times.

"Come on." She waved at the door lens.

The kid hopped off my lap before his hands left his ears, hesitated as he realized what that said about his sound dampening technique, but Saash was already moving. He grabbed my good hand and towed me in her wake.

"Saasha!" Rex scrambled to his feet. "You can't leave me here."

She froze in front of the exit lens. A copy of the warning sign posted on the door's exterior hung in front of her. *Not responsible for women left overnight.*

"Chee." Saash's jaw clenched so tight, her teeth screeched as she spoke. "You stay between Mamma and Nik. Don't you let your pants floss show out of line. Whatever your father's done this time, he's gone too, too far."

The kid wilted, eyes filling his whole face, scared pissless. I didn't say a thing.

"Niki." She only called me that when things were tight. "You watch."

I nodded. She pushed the lens open. We stepped through as a unit.

In deepening dusk, lights glimmered along the exterior walk, throwing shadows that hid more than the lights revealed. The vegetable kiosk across the walk looked like a black pit. Leaves rustled in the wind. The walks were deserted, everyone at dinner now, or already drinking. Chee stood rigid between us.

We took a step. Something stirred—atop a building.

Saash froze. Tension sizzled through me. I spun—pure instinct—and wobbled, shoving Chee back.

Saash drew. Light flared from the roof.

Saash fired. Ears ringing, I clutched Chee and stumbled through the bar lens cursing. Rex stood against the back wall, face gone to bone and terror.

Saash's retreat hit me from behind. I landed on my knees, scraped my cheek on a table. The lens hiss-sealed at my back. No one followed. One no inside moved.

Saash jerked me up, Chee dangling from my arm. She pried him free. I took a step, eyes on Rex. But my leg buckled. Saash caught me.

"He's mine, Nik." I sucked a deep breath. "Sit." She pushed me into a form and, hugging Chee, glared at the room of natives. "You better get out now, I think." Her voice boomed in the otherwise silent room. "They only want us."

Silence. She stepped to the lens and cracked it.

"I'm sending these other folks out now. Alright?"

"Yeah." Distance neutered the answering voice. "Keep the locals out of it. But they exit single file so we know Rex ain't one of 'em."

Forms hissed and pads burped, suddenly emptied. A stampede hit the exit lens, hesitated, queued up and flowed into the night. Only the three of us, Rex and the bartender remained.

In the resultant quiet, my breathing sounded like a force engine. My hands shook. Saash slid Chee to the floor. A little arm slipped around my waist. I tugged him near, quaking from the inside out, head sagging. Saash squeezed my shoulder and turned on Rex.

"You knew they were out there."

"No." But his expression contradicted him.

"Yes." Saash's voice slipped to an emotionless whisper. "You didn't warn me. Left me guessing."

Rex's face crumpled. He'd knowingly risked his son's life. I forced a hand up, turning Chee into my side, not wanting him to see any of this.

Saash walked to the lens, cracked it. Streak fire chattered off the bar's exterior wall. She flinched back. The blast sizzled white and died, a warning.

"Back door's covered too." The yell carried clearly from outside. "Don't try the roof. Sit inside, and we'll blow the building. Take your pick, but don't take long. Send him out Saasha Wylie, or we'll kill you all."

"What you think, Nikolo?" she sealed the lens. "Room for misunderstanding there?"

"I don't think he means me."

She shook her head, popped the warning placard off the inside of the bar's door and carried it to the bartender.

"Take care of this." Her breath puffed out. "I'm the only woman left tonight. And you ain't responsible."

# Absolute Magnitude MSFA

He nodded, eyes showing white clear around.

"Rex—" she turned. "You better choose. Which way you going out?"

He didn't say a thing. Whatever he'd been when she decided to bear his child, he stood now shaking and sweating, tears slicking one cheek, all his sneaking magic lies useless.

"You took my son." Her voice was harder than the bar's scarlet counter. "You used him to bait me for two weeks."

So—he'd stolen Chee while I lay in Med, wallowing between life and death, distracting her from finding her son. Why had she stayed with me?

"Give me his coat." I slid Chee onto the form and stood, deciding what I meant only after the words were out. Saash turned on me. "I'll go out. They won't stay around to verify things." I took a step toward Rex. "Whatever the news nets report, they'll believe."

Rex's face lit up, a drowning rat sighting hope.

"No" Saash pulled her streak and leveled it at Rex. "He dies where he stands first."

"Saash"

I glanced back and down. Her eyes followed mine to Chee. Her face paled. I wouldn't let her murder her son's father in front of him.

"You can't any of you *do this to me*." She flushed from her forehead down. "Look at you. *Men*. All of you demanding. Let me live. Let me die. Let me be happy." She spun on the barkeep. "Don't ruin my damn saloon."

Her eyes darted between us, daring us to contradict her. "Frag you." Hesting a form chair, she threw it at the mirror above the bar. The owner ducked— Glass shattered, jangling and tinkling.

Chee sobbed. The floor danced beneath me.

"Son—" Rex extended a hand. "Chee, come to Dad."

The kid plastered himself against my leg, and I sat straight down on the floor. Why didn't she let me do this? I'd seen the truth in her face just now. She would *never* trust me at her back again.

Pain welled. The muscles in my left side tensed, spasmed from head to toe and knotted me over on my good side. I yelped, damn it.

"Rex! You sliming piece of—"

She dropped beside me, slipped her fingers to the back of my neck and found a trigger point, stroking and stroking, soothing away the cramps until I quivered like mush. She wiped my cheek, mopped sweat from my eyes with her sleeve—and kissed my forehead.

"You've done enough today, Nikolo." Her words slid over me, as gentle as her touch. "Come on." She drug me upright, hefted me across her broad shoulder. "Chee."

The kid followed, serious and dutiful. She kicked aside broken glass, hauled me behind the bar and propped my back against a freeze keg. My head lolled, and I watched a sideways version of her stamp out of sight.

Chee snuggled down, supporting my head. And the bartender, still hiding below counter level, snatched a water tube from a tray and opened it for me. It took all my strength just to sip.

"Now, Rex." Even muted by the bar's mass, Saash's voice chilled me.

"I can't—" Rex's voice scaled into a whine.

Chee blotted my bloody cheek, humming a little tune.

"My Grandpa used to pick wild berries for me." My tongue slurred, thick and numb. "He'd take me fishing in the stream that ran behind our house."

"I can't—" Rex whimpered.

"Were they big fish?" Chee's eyes, teary and round, held mine. Thuds and thumps sounded from the other side of the bar.

"Big, beautiful fish." I forced a smile. "With silvery scales, red spots like rubies and green like emeralds, a stripe the color of sapphire."

"No!" Too late to get mad now Rex.

"We sang this little song." I began to hum.

Out front, someone yelled. Not Saash! I prayed. Not Sash. What could the kid pray for?

I broke into verse, finding the tune as I went along, singing as loud as I could.

"Dancy fish oh he went home. Coo-oo. Coo-oo. Dancy fish —

My voice broke and sketched, but it sounded better than other things Chee would hear if I shut up. The exit lens whined. I hugged the kid near, drew my streak and held it across his back.

"—sing's this song." Streak fire sounded over my voice. "—he did dance. Coo-oo."

A scream rose—prickling my scalp—and faded.

"Coo-oo." The bartender joined the refrain, stumbling through the next verse, more noise. "Dancy fish—"

The bar fell silent except for our singing. We started the song over, repeating verses. Chee joined in.

"Nik."

Saash peeked over the bar and met the muzzle of my streak. Her hair stood out in spikes. Her forehead sported a purple lump, and her expression was too grim for sanity. But she looked physically in one piece.

She nodded. We kept singing.

"I'll put your sign back." She nodded at the bartender. "So no one will blame you."

We put Chee down to sleep in my berth. I ruffled his hair and squeezed his hand. Saash hugged him.

I slipped out while they said their prayers, went to the galley, made brew, sat at the table and stared at air, thinking about Rex. In the end, he couldn't make the one decent choice on his own. She'd had to throw him out. She should have done it sooner.

"You need rest."

I started. Her hips filled the galley's entrance.

"Yeah." I swallowed. Her face was pale. Dark smudges ringed her eyes. The bruise on her forehead had gone black. *Time to choose.* "I don't want you to throw me out."

She blinked, took a breath and slid down in the seat opposite mine. "What?"

"I want to stay. I'm not garbage—"

I didn't finish that line. "I want to love your kid."

She shook her head, swallowed a bitter sounding laugh. "We can't work together anymore. You could never trust me again after I let you get hit like that."

*She let me—*

"When'd you decide that?" I'd been right, and I'd been wrong about her reasoning. "While sitting in Med?"

"The instant you were hit." She scrubbed a hand over her face.

"I'm not asking to work with you. That's done. We can't afford to go down together. We'll have to work different jobs, run two teams. Chee needs *someone* left. I just want to stay in your life." Wanted to have a life.

"You *want* to stay." She shook her head. "I just killed the only other man I ever let near me. Nearly killed you before

## Leftovers

that, Idiot."

"Yes." I kicked her under the table—*hard*.

She stared at her hands. "He made his own choice, Niki. He *knew* I had none."

"I know."

She met my stare, bottom lip tucked between her teeth. I wouldn't look away.

"Remember that sign in the bar?" A little light came back into her eyes. "Not responsible for women left overnight?"

I nodded.

"Well, will you?"

It took me a minute to understand.

"Yes. *I'll* be responsible." I met her stare. "But *I won't* ever leave you. Not overnight, not ever."



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## RAMADHAN

by  
S.N. Lewitt

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### RAMADHAN: DAY 1

"Allahu Akbar" echoed through the great ship, calling the faithful. In Fina', the central causeway, the spacebred drifted into their own crystal mosque where an intricate steel gyroscope pointed eternally to the Holy City of Mecca. The crystal walls of Fina' surrounded them with a blanket of darkness glittering with bright galaxies.

Finding places on the broad transparent beams, they prayed and prostrated themselves with special fervor. They were hungry. Above them hung a tempting blue and green oasis in the desert of space where the only dues were drifting ethers, but they paid it no attention.

When prayers had ended, Sayeed stayed behind. Only in Fina' with its constant zero-g could he feel the presence of God. Now that presence was overshadowed by the intruder that hung above them. The Earthbred had named that planet Aman, safety. For Sayeed it was not safe at all, but the Earthbred were still hoping to find something of value to buy their way back into the society that had exiled them. The planet obscured the view through the transparent walls that filled his vision with the infinite glory of Creation.

His parents had not thought so. Four days ago when the probe indicated that, yes, this place had also been touched by the Hand of God and given life, that this place also was full of water, his parents and all their friends had called a special day of rejoicing. They had been looking for this place forever.

Sayeed had been afraid they wanted to stay there, to move down and plant themselves in the dirt. The idea terrified him. Everything that mattered to him, everything that made sense and had reason, everything they needed was right here on *Qadum*. He had gone to his father's majlis and said nothing as he had served the coffee.

"But I don't want to live here," Uncle Badr had said softly. "I want to go back to Earth, to take my children to Mecca, to drive them out into the desert at night when all the bonfires are lit during Ramadhan. To stay on this planet is the same as the ship. No different."

And to his horror, Sayeed heard his father agree. "Of course we won't really live here," his father had insisted. "It is exile, it is permitting the injustice against us to remain. But this place may give us the means to return."

Sayeed had tried not to listen, to concentrate on roasting the coffee and tossing it with the cardamom, with making sure the water was exactly hot enough but not too hot when it was poured over the mixture. The ritual was as old as Arabia, and the long-handled pot he used had belonged to his great-great grandfather when he had wandered in the desert.

Always before, Sayeed had enjoyed using the old beaten brass pot. He could caress the warm metal and think of his ancestors making coffee exactly as he did, in tents in the desert where they raced horses and flew falcons to hunt. Sometimes he even wondered if he had relatives still herding sheep and camels from well to well near the Empty Quarter.

Tonight was different. Sayeed tried to ignore the conversation, the old men talking as they had always talked,

words he could recite verbatim if he wanted to. They were his relatives, they were older and they had to be respected, obeyed.

The coffee was ready and he brought it around again, pouring carefully into the tiny gold-edged cups that nearly disappeared between the thumbs and forefingers of the older men. Sayeed did not need to pay such close attention. He had served coffee for his father's majlis since he was ten. And since he was ten he had heard all the sighs and whispers about Earth, about returning.

When he was ten he had even thought about how wonderful it would be to return himself. Uncle Badr told him stories about the old family house where they had all grown up and where Sayeed would have grown up if they had stayed. It had a courtyard with three date palms and a fountain and flowers in all the colors of imagination. And there was the sea for swimming instead of a pool, with turquoise water lapping a warm sandy beach, with fish swimming wild for the catching and brought home live in a bucket. He had desired such a dream. But that was long ago.

Now the dream hung above and it horrified him. All of it. He did not want to go to that planet, he did not want to go to Earth either. He wanted only to go to his own quarters and read or drink coffee and play chess with Adil and Ali and Nouri. Or stay here in Fina' and join a pick-up tetherball game. Or look out into infinity and contemplate the beginning of the Holy Month and the magnificence and closeness of God.

Instead, he drifted out of the mosque and into the playground of Fina', where a woman in a red dress and scarf waited for him.

"Is it time to go?" he asked.

She nodded. He wanted to take her hand or touch the long black hair under the scarf. Instead, he lowered his eyes. She smiled sadly. "Come. They're waiting for you."

He had married her only six months ago, this navigational computer genius with eyes like comets and a face as soft as the Magellanic clouds. Six months, yet between their duties they had seen each other perhaps only half a day each week, which made them married only two weeks. Two weeks was what it felt like. He had looked forward to spending this Holy Month with her, but the mission manifest had spit out his name for the exploratory team. It was too great an honor to turn down. Even Samiha, his sad-faced bride, had to agree.

They drifted down the great open tube of Fina' connecting the two ellipsoids that composed *Qadum*, the mothership. The scaling locks whispered and they wandered into the residential areas. They walked past their own quarters in the inner rings, into the intermediate .7-g rings which housed the offices and schoolroom. They passed into the outermost corridors close to the hull. Here at full gravity, interspersed with the Earthbred's residences, were the labs and hangar decks.

"I don't know if I'll stay with my parents," Samiha said before they reached to hangar door.

Sayeed stopped. They had arranged it, decided that Samiha would move back into her parents' quarters in the outer ring during the time he was away. "Won't you be lonely?" he

# Absolute Magnitude MSFA

asked, as he had when they had thought of the plan.

She bit her lip and looked down. "Things are different than when I lived with them," she said softly. "This planet thing has them just talking about Earth again. I thought . . . I don't know what I thought. Maybe that they were happy on *Qadum*. Maybe that they would want to settle here. But I don't know what they want and they are excited and strange and not like my parents at all." Samiha twisted the tied end of her scarf in her fingers. "My mother fussed at me about my clothes again."

Samiha's mother, like his mother and most of the Earthbred women, did not wear headscarves. They said they were good Muslims, but they did not chose to follow this one small point of modesty stated in the Koran.

"My mother had to wear a veil over her face and a mask to go outside," his mother told him. "I'm a part of this ship, I'm an air systems specialist. I do not have to act like an uneducated woman who is good for nothing but cooking rice and having babies. I'm as good as any Western woman, any European. I went to school in England, you know."

Sayed had not said anything at all. Samiha was one of the most valuable people on *Qadum* and she didn't think that covering her hair meant covering her brain. Once she had told him, "I think the reason we are to be modest, to cover our bodies and our hair, is that that is not where our worth lies. My worth is what I do, not whether or not I am beautiful. And so God has given us this command to make us always aware that we are not playthings or objects. That the beauty of our minds and souls and actions is what everyone should see."

When she said that Sayeed suddenly saw how shallow, how brittle, his mother's rejection of this particular aspect of Islam was. He did not understand why going to school in England was so special or why it was more important to her than her relationship with God. Especially now, when England, like Qatif, was a million years away.

But his mother's attitude was normal for her generation. She had been angry when his sister had adopted the scarf and began to frequent the mosque in Fina'. Samiha's mother, too, was unhappy with her daughter's choice of Islam over tradition. He could understand why Samiha wouldn't want to argue with her mother. Especially not over the Holy Month.

"Won't you be lonely?" he asked. He wanted to touch her fingers, run his thumb over her eyebrows, but this place was too public for such intimacy.

Samiha smiled secretly. "Your sister Rabiyah is coming to visit, to stay with me."

Sayed wanted to laugh. Samiha was not just smart in the ship's ways, but in the ways of people as well. Rabiyah was nineteen and unmarried and, to their mother's horror, very devout. Samiha and Rabiyah were more like sisters than sisters-in-law. Sayeed knew he shouldn't be so pleased, but he knew that Rabiyah would enjoy the respite from constantly having her clothes and her friends and her very careful observation ridiculed.

He wanted to talk longer, anything to spend just a little more time with Samiha. Anything not to go to that planet. Sayeed had never been on a planet in his memory and had no desire to go to one now. He only wanted to talk about ordinary things with Samiha.

He thought of another topic but Samiha spoke first. "You are late. Everyone else is already there and waiting to go. It will look bad if we don't go now."

She was right. He tugged lightly at his worksuit, checked his few personal belongings, and pushed open the door. Samiha followed.

Deck 16 was quiet for the number of people there. Only twelve of them were going on-planet. The two shuttles had been loaded yesterday. Now workers in Mechanics-office red stood aside. Friends and family pressed in, hugging and kissing and wishing well to those who were leaving.

His parents had come, and Uncle Badr and his cousin Farid. His father handed him the small red utility knife that was the envy of everyone who did not have one, a knife with three blades and a screwdriver and other tortured-looking bits of useful steel. His mother, with her hair uncovered like all her generation, studied him carefully as if for signs of illness.

"You be careful there," she said. "Don't eat anything that doesn't come from the servio. Wear isolation gear whenever you're outside the sterile area. You don't know anything about germs. You've never been near germs. And did you bring extra socks?" You need socks in gravity. Or you'll get blisters."

"I have socks," he said. He embraced his mother and kissed her on the cheek before he kissed her hand with the proper respect due his mother.

Samiha hung back against the gray bulkhead, leaving him to his family. For all the respect and duty he owed his parents, he was glad they had found him a bride who covered her hair, who cared more about the Koran than about Earth. He looked over to her and smiled softly, touched his fingers to his heart. Just before he entered the shuttle, Sayeed saw her mouth "Ma asalaama." Go with God.

## RAMADHAN: DAY 3

Under maximum magnification the violet stained virus squirmed through the one-cell section of the plant tissue. If it weren't toxic, it certainly looked as if it should be. Headless and vulgar, it moved without apparent rhythm or cause. Sayeed's skin crawled as he looked at it. It was already making him sick. If it was toxic he could go home to the comfort of clean gray bulkheads and Samiha and Fina'.

"I wanted you to see it before I explained," Abdullah, the chief biomedic of Base One, began. "I'm sorry to call you from your rest, and surely we all need it during the fast, but this had important implications for our mission. I've contacted Base Two and the infestation seems to be universal. There is no cause for worry yet. After all, there are rather a good number of unpretty things floating around in your systems at the moment which are either completely harmless or actually beneficial. And this was taken from perfectly healthy-looking specimens. It may even be just the thing we've been hoping for, *inshallah*."

Sayed left the black lab tent as the others stared morosely at their fingernails. He felt like an intruder in their grief. Aman was the first Earth-type planet they had found since being exiled after the Shi'ites rebellion twenty-five years ago. For generations the Shi'ites of eastern Arabia had been economically underprivileged and confined to professions other Arabs considered dirty and beneath them. Which was why they had *Qadum*. Engineering did not qualify as dignified work among the western Arabs, who had financed the starship but wouldn't soil their hands to build it.

He had heard a hundred times how his father had been sent to America to study as a young man, how he had returned to work on this great advance in Saudi technology only to be told that he didn't qualify to go along. How angry that had made his father. How his father's Uncle Muhammed had been one of the sixty students shot in an early uprising against the Saudi treatment of the Eastern Shi'ites.

These were things Sayeed had lived with and never thought

## Ramadhan

about. It was simply history and the truth, but he felt as if he had betrayed his family and his people because it all seemed so far away. He couldn't picture a city, couldn't understand why they didn't simply drift out away from the Saudi jurisdiction when the Kings and their Provincial Officers, the Princes, became overwhelming. He knew that all time belonged now, that an evil done his grandfather had also been done to him. He knew that the revelation of the Koran happened afresh every time he set his eyes on the scared Book.

But he could not remain angry about a place that seemed only mythical. He remembered nothing at all of Earth, of Qatif, except the night they had fled. His father told him about a visit to the zoo and seeing an animal called an elephant. About how it wrapped its trunk around him and wouldn't let go and how he had been very brave and hadn't cried until the trainer came over and hit the elephant with a heavy stick. And how Sayeed had been angry that the trainer hurt the elephant, who wasn't trying to hurt him at all.

That could have happened to his great-uncle Muhammed, for all Sayeed remembered of it. He had seen pictures of the elephant, but could not imagine the trunk of one wrapped around his waist. His life had started the night he had come to Qadum and he wanted no other.

Looking through the plasticine isolation bubble at the planet's sapphire sky, Sayeed recoiled. Salah, Abdullah and the others kept saying how much like home this world looked, with all the vibrant green pressing against the bubble walls and the brilliant blue above. For Sayeed it was disorienting. His mind was buffeted by the constant press of color which was a constant barrier between him and the One Reality.

Thirst and weakness assailed him. His body felt heavy, heavier than it ever had been even when he had been exposed to 2-g. His lungs ached for the soft tobacco of the water pipe and his stomach knotted. He pushed it aside.

He reached down absently and rubbed his shin lightly. There had been some soreness there again today, probably from wearing heavy isolation boots and stepping over unaccustomed rocks and roots. His forehead felt damp and the light burned his eyes.

He wondered how the six at Base Two were doing. Here he was the only spacebred, while Base Two had four. Adil, who was at Base Two, was his logmate: they had trained together since their first day of school. He wondered if they, too, were sickened by the insanity that surrounded him on all sides. He longed for Fina' with its cleansing clarity and the quietude of steel.

Only two days on-planet, and already he was beginning to feel homesick for the only home he knew. That longing opened a secret place and he found understanding of the Earthbred longing for their own world. He had been gone for two days, they for twenty-five years. Compassion rose in him, but did not annihilate his basic desire.

He wanted to go home, to his own home. The virus must prove to be toxic. Then they would be ordered out of the asylum, this nightmare of fantasy. Then he would be free to return to Qadum and wander back out into the safe emptiness of space.

His thickened tongue brushed the roof of his mouth. He wondered how long it would be until sunset. It was strange to think in the local where fasting was regulated by planetary conditions and the precision of Mecca-based calculation. According to his chronometer, it would be hours and hours before it was time to break fast. He couldn't look at the sun and judge time as Abdullah and Salah, who were Earthbred,

did.

Back in the living tent, he spread his blue prayer rug over the larger one that covered the tent floor. He washed and said the noon prayers, feeling vaguely discomfited. He was acutely aware of only three dimensions here. He could not face Mecca properly. The black plasticine of the tent did not fully shield out the sunlight. Lonely, he added another verse from the Koran to his prayers. Whichever way you turn, there is the face of Allah.

He had no duties for the rest of the day. It was better to sleep until sundown than to think of his hunger or of the virus thriving in Abdullah's lab.

### RAMADHAN: DAY 4

There were four tents in the enclosure. One was the lab where Abdullah and Faisel, the geologist, shared space. Then there was the command tent with the comm, the giant chart screen and Salah's terminal. The third stored equipment, supplies, and the small humming power packs that kept the bubble sterile and controlled. The last tent was given over to living. They had tried to make this tent as comfortable as possible. There was a thick red and blue carpet and a calligraphed sign, bright purple on white pharase, in Faisel's elegant hand. The tent smelled faintly sweet from the damp water-pipe tobacco. In the enclosed environment, this scent could be detected throughout the bubble. The water-pipe took up space and was a luxury, but it was Ramadhan. Since it was bad enough to spend this time away from family, perhaps someone in command, or maybe supply, thought they rated the comfort.

Across the sky an impossible watercolor in red and gold and pink danced and changed crazily. Sayeed watched it with fascination, as he had every night before.

He licked his cracked lips with anticipation. Even the watery glucose mess the servio politely labeled, "orange beverage" would be as refreshing as the promised waters of Paradise.

"About another hour," Abdullah said softly. "Back home, when it became dark, they would fire a cannon to signal the end of the fast for the day."

Sayeed just nodded. He had heard a cannon once on tape. The chime the ship's systems used to signal them was far more melodious. The fast should not end as a celebration of indulgence, but almost wistfully, withdrawing only reluctantly from the concerns of the soul to the concerns of the body. It was not the sort of thing Abdullah understood.

Sayeed knew that there were things it was useless to talk about to the Earthbred. Even his own parents seemed to relegate their relationship with God to a set of habits in their lives that ignored the greatness surrounding them. They prayed and taught him the Five Pillars, and had checked his religion homework as thoroughly as his math. But they did not gather in Fina' and contemplate the vast majesty of Creation and their own place therein.

When he said that he went to Fina' for contemplation and prayers they had scoffed. He could pray anywhere. The Koran made that quite clear. And while he knew they were right, he also knew that in the great emptiness his soul expanded and flew and he touched something terrifying and impersonal there, something he had never experienced in the cramped places the Earthbred favored.

Their gravity-bound spirits were mirrored by the courtyards in their high-gravity sectors, small paved enclosures which were pretty but claustrophobic to those who drifted in Fina'. He didn't trust the Earthbred aesthetics any more than he

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trusted the hard, glittering mind behind Abdullah's warm eyes.

"Anything wrong?" the older man asked.

Sayed shruged. "Just a bit stiff. I'm not used to so much physical labor."

Abdullah continued to stare. "You're just not used to the gravity. Did you really get your ten hours a day under 1-g? You all know you lose calcium if you don't, but most of your generation skimps as if it doesn't matter. You spend all your time in Fina' or in your low-g courtyards. We should never have allowed you to live in the inner rings at all."

Sayed was mildly annoyed. They were required to take two hours in the gym, and the library and hangar decks were all around the outer skin, gaining from maximum spin. Besides, he was a good son. He visited his parents daily. Their quarters were in the outer rings close to the hull. Like the other Earthbred, they preferred to live under full gravity at all times.

His own quarters with Samiha were in the inner ring and kept at .5. That was heavy enough not to have crumbs flying about, but light enough for the addictive sense of freedom he experienced fully only in Fina'.

"Perhaps you should be careful," Abdullah said. "You've never fasted under a sun before. You need more rest and extra fluids."

Sayed nodded. The reds and yellows faded from the display. Darkness crept upon them silently and the lamps were lit. In the living tent they cast warm shadows over everything.

It was a time out of the history books, Sayed thought. Here they were in a black tent, seated on the lush carpet. He knew that was only imagination of a past that had never happened. His family, like every other family on *Qadum*, had been city dwellers since the time of the Prophet. Only to Sayed, city folk and Bedouin were both the same. They all lived on a planet in the dirt with a crazy blue sky and uneven hours and unprocessed air.

The light scent of incense drifted indolently as they passed the rosewater to wash and perfume their hands. Outside of the bubble it was dark. The constant gentle hum of engines and the soft hiss of life-support were absent, making the silence of the planetary night deeper and more frightening.

Here, eleven light-years away from the eastern shores of Arabia, they kept the customs and broke fast as their thousand-times great-grandfathers had. They passed around a tray of dates, dates from the hydropons of *Qadum*. The original palms had been taken from Qatif, the ancient Shi'ite city they had left. At one time Qatif had been more famous for its date palms than for its revolutionaries.

The good smell of lamb mingled with the perfumes as the servio rang twice, signifying that a huge platter of rice and bowls of spiced meat and fruit were ready. As the youngest, Sayed took the heavy trays from the lower compartment and lay them on the bright yellow cloth in the middle of the floor. "Bis m'Allah ar-Rahman ar-Rahim," he muttered softly, and began to eat. In the name of God, the merciful and benevolent.

He ate quickly. He had done a good bit of work on the power packs and checked the lab equipment. It hadn't been heavy work, but under 1-g and fasting it had been more than enough. When the last pear core lay discarded, Sayed served pungent spiced coffee in thimble-sized cups. The ritual of firing the water-pipe began. Cloying damp tobacco smoke permeated the atmosphere.

Back on *Qadum* they would be visiting now, people coming from different courtyards of the ship, even crossing Fina' and invading the opposite sun and moon sides of the ship, bringing gifts of food from the hydropons. Comm would be piping

music all over. The corridors would be crowded, especially Dell corridor where he lived. It was one of the main thoroughfares and the residence of many lognates who turned the whole passageway into a great party with every door open. There would be trays of sweets, dates stuffed with almonds and sesame candy and tangerines piled in baskets and on tooled metal platters that young brides received as dowry gifts and displayed at every occasion.

First, Sayed thought nostalgically, they would visit his parents. His two younger brothers and Rabiyah would be there and they would break fast with the family, Samiha and Rabiyah going into a corner to giggle and gossip. Then they would go to Samiha's parents where Samiha's mother would feed them three kinds of pastry before they went off to the spacebred party on Dell corridor.

After the first flush of early night, the spacebred would make their way to Fina'. They would play tetherball until they were tired, and then Kamal would bring out the drum and they would clap out rhythm patterns in the hours that were usually the cold dark hours of sleep. Then, just before sunrise in Mecca, they would eat sahur, the last meal of the night. And as they finished the meal and the cloth was rolled up from the floor, the first notes of the call to prayer would come over the speakers. While their parents went to pray in the small courtyard spaces in the outer rings, the spacebred gathered in the eternal shadow of Fina', where an elaborate gyroscope eternally pointed to a Mecca they never thought to see.

Sayed deeply wanted to go visiting. After all, it was Ramadhan. People always visited during Ramadhan. He assumed it was no different when confined to a planet. He mentioned it casually and Salah answered. "Of course. Why not go over to Base Two?"

Flying at night was no new thing to Sayed, but the mountains were. They seemed to defy all his previous images with their clean linear beauty. He regretted seeing them only by the means instruments. When he had flown Faisel out only that morning they had appeared less impressive than the current shadows against shadows. It almost seemed as if they danced in the night.

Base Two was only four hundred kilometers away, but the ecology was completely different. He didn't even glance at the panel as he saw the shimmer of Base Two's bubble against the grassland. He punched out the callcode and shouted, "Hey, Adil, the rest of you! Get ready to Jimmy your isolation lock—you've got company." He laughed deeply, thinking it the strangest visit anyone had ever made during the Holy Month. None of the spacebred had ever gone more than the three kilometers of the ship.

"Base One shuttle, return, return. There is risk of contamination here. We are leaving. Do you copy?"

The voice that came back over the comm wasn't Adil's. It was Ibrahim. He was even older than Sayed's father and was probably still wanted back on Earth for the part he had played in the Shi'ite rebellion.

Deeply shaken, Sayed acknowledged and banked the craft deeply in a hairpin turn, heading for the mountains again. He couldn't raise Base One yet; the mountains were in the way. What had Ibrahim meant by "contamination"? It was inconceivable. Base Two had looked completely normal under the soft bubble glow. Contamination. And Abdullah had said that the virus had been confirmed at Base Two as well.

Without thought of the fuel he was eating up, he edged the clumsy shuttle faster and faster. Contamination. The joystick practically maneuvered of its own will in his hands as he

## Ramadhan

milked every neutron of speed the bulky atmosphere craft possessed. How he wished for his own lam-sod 12 and a vacuum. He strained forward in the seat, muscles arching against his aching spine, willing himself faster. "Just a little more, come on, baby," he crooned softly, coaxing the hulk to greater speed, pouring his spirit into it.

After what seemed a suspension of forever, the bubble of Base One came into view. "Get your tail into here on the double! Or were you exposed?" a voice barked at him sharply.

Sayeed breathed a sigh of relief. "No, Abdullah. Coming in." He laid the shuttle neatly next to the isolation lock, stripped off the heavy suit and stepped into the protected sterile environment.

Intense pain caught Sayeed's shins and thighs as he jogged to the command tent. When he reached it, Abdullah was listening to the crackling of the comm, waiting for information. The screen, like the biomedic's face, reflected a hard negative. Legs collapsing, Sayeed sank down next to the older man and called him softly.

"The report came from *Qadum*," the biomedic said tonelessly. "They'll transmit when there is more. All we know so far is that four people collapsed with what look to be viral symptoms tonight. They were only dancing a bit, celebrating, and then one at a time they fell, complaining of intense pain. What is interesting is that the symptoms are different in each one. Tests will be run immediately. We'll be notified of the results."

"Who?" Sayeed whispered.

"Mohammed, Khalil, and Ali. And Adil."

Sayeed felt the darkness moving across him. It had been his will, his prayer, that the virus be deadly. Now it was killing the spacebred. It was killing his friends. He closed his eyes softly and imagined Fina' around him, and began to recite the first prayer he had ever learned.

Pain flashed through his legs and back and choked him with agony. He had wished for an evil thing, and the wish had been granted. He had no right to wish for himself, for his own comfort. He had never learned to trust God. For all his hours of study and prayer, he had never really submitted. For all his exhortations to the others among the spacebred, he himself was the one who put his desires above the proper order. He did this during Ramadhan, when it was time to prove that one is not a slave to desire. He had been the greatest slave of all. Even the Earthbred elders, cold and analytical like Abdullah, who had never caught the spark of the Merciful, were better than he.

"So you are now enjoying the luxury of self-recrimination?" Abdullah asked coldly. "You don't know what it is. That last night, when the rebellion was broken and we fled the city for *Qadum*, I was working late. I heard the noise, the army rushing in the streets. There was an explosion nearby. I left. I flew home, over my home. There was only slagged concrete. I went to the shuttle stop. I prayed that Fatimah and the children were ahead of me. I left them in the city. I left them in the little pieces of my burned house."

"And you still want to buy back?" Sayeed asked, amazed. "You want to give them some great gift for permission to return?"

Abdullah shrugged and Sayeed turned from what he saw in the older man's eyes. It was from a time before the Prophet, from the laws of the tribe and not the Sharia, the Law of the Koran. Abdullah's face shone with the desire for revenge.

He had seen that look before. He had seen it in his father's majlis and when his mother talked about Rabiyah donning a scarf and long skirts when she was off duty. He had seen a

flash of it when he had first discussed arranging a marriage and what kind of dowry he could give a bride. There had been the sudden anger, the strange shadows that passed over the faces of his parents and his Uncle Badr and Cousin Farid. As if they were suddenly furious and choked, that there were no gold bracelets and jewels that were proper for the occasion.

He had grown up listening to his mother's dowry bracelets tinkle on her arms every time she moved. Even when she was working in her baggy grey overalls the bangles glittered on her arms. "What does gold mean here anyway?" his father had asked, bitter. "I spent five years saving to buy gold. It meant freedom once. Now it could be plastic, for all it's worth."

"Plastic would be worth more. We could use more plastics," his mother had interjected. Then she had drawn off three of the narrowest bangles and handed them to Sayeed. "These once would be worth enough to buy a car or a university education," she said as she dropped them in his hands. "They won't buy *Samiha* anything at all."

He had not understood the twisted fury in them all. Even his Uncle Badr had looked at the gold and glowered. Now, with Abdullah's face twisted into the same expression over the virus, he understood. That knowledge frightened him more than anything under the lens, anything Aman could threaten. The terror of the insight made him cold and his skin went white and clammy.

"Are you feeling all right? Or has the virus hit you, too?"

Sayed shook his head and the motion hurt his neck. They were trapped together on this planet. For the sake of the four who were infected they had to stay and experiment with the virus. Despite the starship's superior equipment, they were three crucial days ahead.

### RAMADHAN: DAY 9

The mice ran around in their cages, squeaking and making little pats with their feet. Their shining black eyes darted into every corner.

Sayed surveyed the lab with satisfaction. He had asked Abdullah if he could assist, and the biomedic had consented. His restlessness and his wish to keep an eye on Abdullah were generously interpreted as a wish to help his stricken friends.

In a tank next to the mice's cages grew a small Earth garden. It reminded Sayeed of the hydropons, with all the neatly arranged rows, each at the same stage of growth, a regimented bean army ready to march. He didn't like beans. His mother had said that only Egyptians ate beans. Egyptians were Sunni.

Abdullah had laughed and said they sprouted faster and gave faster results. Still, watching them grow in the experimental tank, they looked ready to invade the planet itself.

"This is the way they used to look in the fields," Abdullah said, smiling. "You know, the fields would go on for kilometers in every direction and there was this little haze of green in neat little rows. In the dirt. You couldn't see the root systems at all."

Sayed tried to imagine it, but the only picture that came up was the hydropons. It made him think of food, of fresh oranges ripening that would yield sweet juice, of watermelons laden with sugar and firm-fleshed peaches. He thought about perfectly cooked rice heavy with currants and pignolias lightly roasted in oil and sprigs of fresh mint to flavor tea. His stomach groaned. He had been fasting forever, it seemed, imagining the lushness of the things he would enjoy come sundown. His cheeks ached and watered, protesting their emptiness. He would be empty tomorrow and the day after

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tomorrow. Hunger assaulted him like a wave, and he was overpowered with desire.

"Now, look at that mouse," Abdullah said. Sayeed forced his attention. Better not think about food, not when sunset was so far away.

The mouse looked like any other mouse. He wouldn't be able to tell it from the others except for the yellow tag around its rear leg. Yellow was for test, red for control. It squeaked and beat against his hand, tickling him with its feet as it struggled to get loose. Gently he returned it to its cage, laughing weakly as it jumped on the exercise wheel and began to run. The wheel screeched and Sayeed winced.

His brother had kept a mouse when they were young. He had liked the small thing. It was what had set him against biology, that year of advanced lab. He could never come home and play with the pet and not think of its insides being neatly catalogued in his lab notebook while oozing on the steel dissection table. That was the year he had made the decision to fly. Flying was clean.

"I've run every check in the book," Abdullah said. "It's healthy. It couldn't be more healthy, as a matter of fact. The virus is not only not harmful to the mouse, or to the bean, it is actually beneficial. To the beans, that is. Given the low yields on Earth and the heavy population, this could be the salvation of them all. Have you heard of the mycin family, you know, streptomycin or erythromycin?"

Sayeed shrugged. Something was familiar but it was difficult to concentrate. He was hungry. His stomach screamed and knotted. The mycin family was used to combat diseases that didn't exist in the sterile environment of *Qadum*. It hadn't been terribly important.

Abdullah frowned slightly. "I suppose you spacebred didn't worry much about old-fashioned things. It works like this. There is a plant on Earth called alfalfa that lives in symbiosis with a bacterium. The bacterium likes having a living host so it doesn't kill the alfalfa. As a matter of fact, it helps the stuff grow. It modifies the DNA in each cell, just like genetic engineering, so that the alfalfa actually fixes nitrogen in the soil and also protects the plant against fungus. You might remember for a change that nitrogen is a natural fertilizer as well as an atmospheric gas regulated by shipboard life-support system."

The muscles in Sayeed's face tensed, but he resisted the urge to mutter a retort. Abdullah was his father's friend. For all the older man's sarcasm about spacer education, he simply could not show disrespect.

"Well, the fungus part is important too," Abdullah continued. "Most plant infections are fungal in nature. Besides, nitrogen is the best thing to keep the soil rich and producing. And we need that. After all, since the oil ran out, chemical fertilizers ran out on Earth too. They were all petrochemicals. But I'm rambling. The thing is, alfalfa is just perfect except for one thing—humans can't stomach it. Cows go crazy for the stuff, but we've never been able to get the same effect on a crop planted for man. They've tried forever to mutate the alfalfa bacteria to affect other varieties, but it has never worked. This virus here, though, does about the same kind of thing only generalized. It will adapt to any plant and cause that plant to both fix nitrogen and resist fungus."

"Great," Sayeed said. "The hydroponics don't need it."

Abdullah glared at the young pilot. "It's our ticket home. They feed food and we've got the answer. We can hold it over them or we can give it to them as we see fit. Just let them bargain with us. Just let them come asking."

A wave of pain, followed by shivering cold, came over Sayeed as he heard the older man talk. Abdullah tore apart the bodies of small creatures in his labs, and now he wanted to tear the heart out of his own world. Although his stomach was empty, Sayeed wanted to be sick. He had to change the subject. "So it isn't the virus that affected the four from Base Two. What is it?"

"The pathology of the case is very strange. There are networks of microfractures in the shins, thighs and lumbar curve. No one can figure this out," Abdullah said, his voice sparkling with intellectual relish.

Revulsion coursed through Sayeed. The people of a mythical Earth held hostage, his friends becoming mice under the biomedic's curiosity, and his hunger merged. This was his father's friend. This was a person he should respect. This was a person he had respected. Emotions warred within him. Thirst overcame him. And the constant pain consuming the marrow of his legs and lower back assailed him. Anger and agony imploded simultaneously. With a stifled whimper, Sayeed sank to the ground.

## RAMADHAN: DAY 11

Sayeed lay as comfortably as possible in the sickbay of *Qadum*. The night before, while he had slept with the blessed aid or drugs, the Earthbreed had celebrated a return home. They would carry with them the dream of mankind, food for all the hungry. And they would use it to avenge their dead.

It was no matter to them that those who had destroyed *Qatif* had already long joined their victims, and that the current generation thought of the Shi'ite rebellion as something in the history books. The Earthbreed didn't think in relativistic terms. They had been gone twenty-five years. How many generations had been born and died while they had been away?

Sayeed pushed it from his mind. The pain had already begun to lessen and he had good reason to be optimistic. Adil and the others were on the mend, although no one knew quite why.

"You realize, of course, that I have learned more about medicine and immunities in the past few days than I ever wanted to know," Adil told him as he lounged in the large white chair next to the bed. "They thought it was allergies or maybe some bug we weren't immune to. They were taking blood from me as if I were a water fountain. It seems like we, old friend, have grown up in a sterile environment and have never been exposed to billions of diseases and are susceptible to every one of them. And for every one of those billions of germs they need a new vial of blood. By the time they figured out it wasn't any garden variety bug, I was ready to make them fill in requisition form 240 before they got another needle in me."

Sayeed laughed. Requisition 240 was fifteen pages long and asked everything except how often you changed your toothbrush.

"By the way, I've got some pictures for you. From before my abrupt departure."

Adil always had pictures of everything. Sayeed fingered the keyboard suspended from the screen in front of him as Adil inserted the disk. There in front of him the planet flickered and glowed brightly. The mountains towered against the blue sky and the grass waved lightly. In daylight the bubble was barely visible but the black tents stood out against the green, long and low. The pictures changed as more were added. Obviously Adil wasn't working on setting up the Base as much as recording the process for posterity or anyone else patient enough to watch.

## Ramadhan

"Strikes a chord, doesn't it?" Adil asked as they viewed the completed Base Two. Sayeed muttered assent. It did. It looked like something he vaguely remembered, a picture he had seen in a book somewhere a long time ago. He should be able to remember and place it. The nearness grated.

"You know," Sayeed said, "it makes me think of school. Of eighth grade. Of throwing a paper glidercraft at Mr. Al-Jamed when we was writing on the blackboard."

Adil glared. "I never threw a glidercraft and I always got blamed. Besides, you only did that during history and formal grammar."

"I know," Sayeed said. "Somehow I don't think this has anything to do with formal Arabic grammar."

Adil grinned. "Then it must be history, and I won't be any help at all. The only way I passed was copying your exams."

They smiled from memory and tension. They recognized the unsettling effect of the innocuous picture of four black tents against a light haze of grass. Adil flickered the switch quickly and other images appeared. They were close-ups of everyone, group shots in front of a tent, a shuttle, a mountain. These reminded Sayeed of his great-great-grandfather's photo album, a bit of history his mother had grabbed from the house because its size and volume were useful as a shield on that last night when they had fled from Qatif to the orbiting ship. He remembered part of that run, his mother's blue dress, his brother's crying, how he had hugged the toy elephant his father had brought from Damnam.

He and his brothers had looked at the photo album with wonder when they were in school; the faces of serious young men in front of a building and a house and the beach. Adil's had exactly the same kind of composition. Perhaps some things don't change.

They flipped back to the disturbing one, the tents against the grass. Familiarity nibbled around the corners. He hurt so much and there was too much talk of Earth. Samiha would be visiting soon. He was tired.

"Get some sleep," Adil said. "If you sleep enough you'll be doing better soon. And they won't be waking you up every three minutes for a blood test."

Sayed closed his eyes and began to dream, to dream of nomads wandering in black tents in Fina', surrounded by tens of millions of stars unfolding one after the other. Surrounded by the sahara of space, they searched out caravansaries of light through the vast prism chamber that was the heart of *Qadum*.

There was less pain. Sayeed opened his eyes and experimentally moved his leg. Really, it wasn't as bad as before. What Adil had said was true; for some reason there was a mysterious reversal once they were back on the ship. There was a noise and Sayeed turned his head. Abdullah was sitting in the place that Adil had abandoned.

"You sleep through the tests," Abdullah said dryly, "which is just as well. We have an answer, but it isn't the one the ship's complement is going to enjoy."

Sayed wanted to strangle him. Patiently he asked for an explanation instead.

"It's funny that we always overlook the obvious," Abdullah said. "The simplest, most visible things have a way of never crossing our too-subtle minds. I was looking at the X-rays again, and I wanted to compare the breakage patterns to more normal patterns, so I pulled the X-ray file on Faisel. You remember, he shattered his leg two years ago playing netball with you spacebred youngsters. Well, there was a difference in the plates, not one that anyone could see too easily. I ran every series I could think of, and had the computer triple-check.

Then I had the density tests run on you, the other four from Base Two who were affected, two younger people who hadn't been on Aman and were affected, and two of us oldsters. And the answer is so screamingly simple that I'm not sure why I didn't pick it up from the pathology."

"What is it?"

"Oh, yes, it's very easy once you think about it. We were wrong, that's all. Ten hours a day under 1-gee isn't enough."

"Abdullah, please try to make sense. I'm a pilot, not a detective. What are you talking about?"

"Decalcification," Abdullah said simply. "Human bones decalcify under less than one full gee. We've known that ever since the Russian space program in the 1960s. But it was thought that ten hours a day under 1-gee would counteract the effect. It doesn't."

"But I thought the minute you got into gravity you just collapsed," Sayeed said. "That's what happened then, anyway."

Abdullah shook his head. "No, not when it's only ten percent. But it does mean that it will be very painful for any of you who live in the inner rings and spend your time in Fina' to adjust to a planetary environment. It can be done, of course, the whole thing can be reversed, but it isn't pleasant."

"So we're still going back to Earth?" Sayeed asked slowly. "All of us are going to have to readjust and live at 1-gee and drink milk and we're headed back to Earth. Just like that?"

Abdullah's face grew hard. "It's ours. It's our right. Do you have any idea of what happened that last night in Qatif? You were too young. We left more dead in the streets than we could have buried. Your uncle, my wife, my children, thousands of children all murdered. At night, when they were sleeping, quietly. We had a truce, you know. We had sued for peace and they broke it. We have the right. Me and your parents and Samiha and Faisel, all of us. We left the dead. They must have been planning it since the rebellion started."

Sayed winced and shut his eyes. He remembered the smells as they ran to the flitter, to the shuttlecraft to get up to *Qadum*. He remembered the searing scent of afterblasts and the riot of deadly fireworks in all the colors of Aman's sunset. He was glad he did not remember more.

"I'm very tired," he said. Abdullah left and Sayeed felt a great surge of relief. His parents, Samiha's parents couldn't all be as bitter as Abdullah. Sayeed thought of that and it comforted him.

The most obvious thing is the thing we see last, Sayeed thought. It's the thing we never look for because it's in front of our eyes. It reminded him of a story he had read many years ago, a mystery where a stolen letter was hidden in a pile of mail. Yes, that was it. Hide something in the open and no one will ever see it. We never look at what we see.

The computer chimed as the door slid open again. Samiha stood in the light which glinted off the gold dowry bracelets he had given her at their marriage. He was suddenly shy.

"I brought the book you asked for," she said softly, glancing around the room, the thin book disk clutched in her hand. "They are excited about going back to Earth. It's all my parents talk about."

She shook her head lightly, as if to rid it of an unwanted intrusion. "They don't talk of rebuilding the city. Maybe there is no city. But when I ask why we're going they look at me like I've lost my mind."

Sayed smiled. "They thought you lost your mind when you started to cover your hair."

She shrugged. "They've even tried to use that. They keep

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asking me if I don't want to go on Hajj and pray in Mecca. Of course I want to go! But not like this. But Sayeed, I don't believe it. I see it but I don't understand. It wasn't like that before."

Sayed took her long fingers in his hand. "Do you think it's Abdullah?" he asked softly.

She blinked, licked her lips. "I hadn't thought of that. But I hear him talking all the time. I think my mother thought that we wouldn't be permitted on Hajj or anything at all ever again if we didn't force them to permit us back. She was crying and saying that she never did anything to anyone in the rebellion, she had just been a kindergarten teacher. And my father had just returned from school, he had hardly started working on *Qadum* and why did they have to threaten anyone? And wouldn't it matter after all this time?"

"Yes," Sayeed said. "That's what I thought."

"But Abdullah isn't the only one. There is Ibrahim and Munee, and Fathi Al-Awad too," Samiha said. "And they keep saying over and over how if we don't have something to trade, something to threaten, then we will never ever be permitted back for Hajj, for any of the things that are important."

Sayed knew those names. Abdullah and Ibrahim had been active in the strikes in Qatif, and Munee had been a popular iman and had preached rebellion every Friday for nearly a year before fighting broke in the streets. Fathi Al-Awad had edited the illegal newspaper where the idea of taking over *Qadum* had first appeared.

"But my parents have gone on Hajj," Samiha said softly. "And your parents too. And I think all the Earthbreds. So they have fulfilled that duty. What other reason could they want to go back? It is only the few old men who have never loved *Qadum* who have anything to gain. What would my parents get, or yours, if they went back? They keep forgetting that on Earth it is not twenty-five years since they left. Maybe it is fifty, maybe it is one hundred. They think they will see our relatives again and their old friends. I think it would be terrible for them when they returned home and found out that it was all old history and the whole world had changed."

Sayed gazed at her in amazement. She knew his thoughts even before he had voiced them. "In nav," she continued, "we've been working extra hours, trying to recalculate the course. There's no doubt we're returning, not with the amount of work we're doing."

She perched on the edge of the white chair. Sayeed thought that she would look very fragile if you didn't notice the steel in her eyes. "It's a very difficult calculation. It would be very easy to make a mistake. That's why we're taking so much time." She stated it simply as a fact. He hadn't known her well before their marriage, and had often wondered how his mother had chosen so well. Her soft, unassuming voice and expressionless face were masks. Her blunt report of nav work hid the thought he had not wanted to admit, even to himself.

"Let's flip through the book," he suggested. It was the eighth form history text. Picture after picture flew by on the screen between gray blurs of writing. He slowed down the pace as green and brown and black came across the monitor.

Yes, there it was. Low black tents against grasslands overgrazed by herds. A flock of sheep scrambled in the foreground and a woman with her face uncovered held a leather bucket.

They stared at it together. Then a small smile curved the corners of Samiha's face. She pressed his hand. "You're right," she said. "I have to go back to work now. We have a

lot to do."

He was confused. He wondered what she had meant by, "You're right." What was it that was nibbling at the back of his mind, a thing he did not want to face? It would be painful to readjust. The picture in the text. Adil's picture. Tents on the grass. Nav could make a mistake. Ramadhan. Suddenly all the pieces became clear in his mind and Sayeed began to laugh.

### RAMADHAN: DAY 13

"Have some more chicken. You've been sick. You need protein. And another egg." His mother moved the bowls closer to where Sayeed sat.

He didn't know how to protest any more. He thought that if he ate one more mouthful he would explode.

"I need him to come with me to Badr's," his father said. "We promised his uncle. And Ibrahim promised to be there."

His mother shook her head. "Badr and his friends should come to you," she protested. "You're the older brother. And Sayeed is just back from sickbay, he shouldn't be wandering all over the ship in his condition, visiting everyone in the universe."

Rabiyah laughed. "That doesn't keep him and Samiha from visiting you, Mama. And if they're taking these hellions off our hands..." Rabiyah nodded at her two younger brothers who were shooting homemade confetti at each other through straws.

"Hey, aren't your lognates on for a ballgame?" Sayeed asked the youngsters. They puffed clouds of tiny bits of colored paper over him. Several pieces went down the back of his neck and itched like crazy.

Sayed began to brush off the debris. He wanted to look presentable at his uncle's majlis. But before he could finish, his uncle and cousin had arrived at the family's quarters. "I thought we were visiting you," Sayeed said.

"Everyone is going to the Fina' mosque," Uncle Badr said. "It's the only place large enough to hold everyone."

"Then who's on systems?" Samiha asked quickly.

"The emergency crew," Badr answered. "If you were required you would have heard earlier. But I suppose since your husband is just recovered you weren't considered."

Samiha said nothing. Even the boys realized that something was happening and put their straws down. "We should go if we're going to get good places," Sayeed's father said quickly.

Sayed's mother grabbed a scarf before they all left for Fina'. His parents hardly ever went to the interior of the ship. They were not used to the lack of gravity and were ginger about grabbing the clutch cable that ran down the struts to bring people to the center quickly. Then Sayeed remembered that it was the class ahead of his who had thought out the cable system and set it running.

The mosque in Fina' was crowded. The broad clear beams were solid with bodies. The women had separated out to their own section of the mosque, modest behind crystal screens. Sayeed's mother made a face; she didn't like the segregation of the sexes, even though the younger women and men thought it was easier to concentrate on the task at hand. In the end, Samiha and Rabiyah had merely left and his mother had followed along.

As it was, they barely got places together. Uncle Badr and Farid had to squeeze on to the end of one of the opposite beams, and the boys were squashed up front and had to make due with the facing foot anchors. Though the anchors were adult sized, the two of them shared one easily.

Muttering echoed off the hard shell planes. Sayeed had

## Ramadhan

never seen this place so busy, or so noisy. Even when all the spacebred came to Friday prayers there was plenty of room and it was silent. Aman filled the space below his beam, blue and green and wild. Its colors stained the whole company, lighting their faces in eerie shades.

"You trusted us once, in Qatif," Ibrahim's voice shattered the low buzz of conversation. "And, with God's help, we brought you safely to Qadum. We have built a life here, but it has not been easy and none of us has ever forgotten our home. Who could forget the majesty of the desert, the sea sparkling on the rocks, the date palms lining the avenues? All we ever wanted was to live in peace, to go about our lives."

Sayeed saw tears glisten in his father's eyes. Ibrahim's words moved even him, and he had no memories that promised ease and warmth, family and home.

"But we weren't willing to have less than our fair rights," Ibrahim said, his voice stirring and strong as it must have been on the bullhorn during the days of the rebellion. "We weren't willing to take second place to the Westerners, for Qatif is to be bled dry for the sake of Riyadhdh and Jeddah. We fought. Everyone here risked everything and lost everything. On that night when they called in the troops, we lost everything but our lives. What have we ever wanted but simple justice? Simple acceptance?"

"And now we have the key to that acceptance. We can return and tell them that they must accept us. Our homes and our land must be returned. Our dead must be honored. Remember Mahmoun Al-Awadi and Waedad? Remember the sixty killed by the National Guard? Remember the girls torn out of school, their veils ripped off by the Prince looking for leaflets?" Anger and pain fused in a single expression, a single desire. He could taste the emotion, see it glittering in the wet eyes all around him, but he was not consumed by it. This wave of fury and regret was an alien thing here in Fina', where there had always been peace and holiness before.

Under the wave of outrage another emotion hovered. As Sayeed's eyes darted to his cousin Farid, to Adil and Nouri over on the next beam, he saw his own revulsion mirrored.

All that made sense turned inside out, everything ugly and cruel on the outside. Sayeed wanted to run, to get away from the twisted desire he saw infecting the faces around him. The faces of the Earthbred, who still remembered. Whose old affections Ibrahim recalled with his hypnotic words.

Never before in his life had Sayeed thought to question his father's judgement, his mother's decisions. He had always been a good son, a hard worker, a devout Muslim. He had always known exactly who he was.

His sense of trust shattered when he saw the rictus of hatred invade his father's face. His father, who had always been generous and soft-spoken and kind, who had loved playing games with the children and telling stories when they should be in bed, his father was now a person Sayeed had never known.

The choice was done before there was a choice. He was in Fina', where he had always felt closest to God. And he did not know that his father saw the tears on his face and thought it was for the elders.

And it was for the elders. But in a way they would not ever understand. Sayeed tried to look away, to look into his heart as he had learned all his life. He looked to see an answer, but in Fina' all he saw was the great desert of stars.

### RAMADHAN: DAY 14

He was still sore, but he was out of that infernal meeting and back on Dell corridor. The doors were open and music was

being piped through the loudspeakers. People wandered up and down and there was a feeling of gaiety in the air that had nothing to do with Earth at all. Dell was the province of the spacebred.

Tomorrow was separation day, the day that marked the middle of the month of fasting. After tomorrow they would have finished half the fast, and would have only fifteen days to go. Tomorrow night the children would go door to door and collect fruit and nuts and there would be real parties to celebrate the separation.

There would be other parties in the outer rings as well, parties where old stories would be told over the faint bubbling of the water pipe. They would be celebrating not Homecoming, but revenge.

Neither was what was being celebrated that night in Quarters Dell 1214, where the door was only barely ajar. On off-hours they had replaced their work clothes with long white robes and red-chequered headresses that their elders never wore. The women had their hair modestly covered in bright-colored scarves, a custom their mothers disdained as old-fashioned.

They sat on an old rug in the uncluttered quarters around a coffee pot, crowded into the small space allotted. Samiha picked her way through the group passing out tissues and serving coffee, dates and sesame sweets brought up from the central galley.

"There are nine navigational access experts," Sayeed was saying, beaming at Samiha. "Five of them are here right now. We've got two people from Power, who represent more than fifteen, and three from Life Support, each of whom represents the majority of their shifts. All of us are in key positions. And none of us is ready to go through what it takes to readjust to planetary gravity. And no one here has any reason to return to Earth, either to live or to take out old blood on whatever new generation is living there. The thing is, it's all so simple. We represent practical control of the ship, if not the command. A difference in a decimal, just a bit of round-off error, and we're off Earth trajectory."

"You mean mutiny," someone said.

"They're our parents. We have to obey them," someone else said.

"Yes," Samiha agreed. "But did they care so much about going back until Abdullah found this thing? Is it our parents who want to return, or is it four bitter old men who left all their families behind?"

"And they never need to know," Sayeed added. "There is no reason for the Earthbred to realize that we control the day-to-day workings of the ship. We didn't even see it until we started planning for this meeting."

"But then we'll always be exiles," a voice said from the left. "Not exiles," Sayeed said softly. "We're home now. Here." His voice took on a slightly different timbre as he began to quote, "In the Month of Ramadhan the Koran was revealed, a book of guidance with proofs of guidance distinguishing right from wrong. Therefore whoever of you is present in that month let him fast. But he who is ill or on a journey shall fast a similar number of days later on." Our elders have always told us that home was Earth, but according to the Koran one does not fast while traveling. Yet we keep fast here on Qadum and even on Aman. When I saw the pictures of the tents downplanet they seemed familiar. I found the pictures in our history book, the pictures of the Bedouin. We are Bedu, wanderers. Not uneducated, like our ancestors, but free like them. We are Bedouin and we observe Ramadhan at home. Wherever home happens to be."



## AN INTERVIEW WITH ROGER ZELAZNY

The author of such books as *Lord of Light*, *The Dream Master*, *Eye of Cat*, and *The Chronicles of Amber*, Roger Zelazny is one of Science Fiction's true luminaries. His work began appearing during the mid sixties which lead some people to erroneously associate him with the New Wave movement. Zelazny outlasted the New Wave, piling up an impressive number of Hugos and Nebulas in the process. I met up with him in Lynchburg Virginia, where he was the guest of honor at the Kaleidoscope convention. He graciously took time out from his busy convention schedule to speak with me.

**Absolute Magnitude:** I thoroughly enjoyed your new book *A Night In The Lonesome October*. How did you come up with the idea for this story?

**Roger Zelazny:** I got the idea for that story in May of 1979 I didn't know what it was going to be; I just thought it would be neat to write something about Jack the Ripper's dog, and ask Gahan Wilson to illustrate it, partly because of the fact that a dog is such an unusual person. No matter who owns a dog, if that person is nice to the animal, the dog is going to love him. I thought at the time, if you take a really despicable person, a serial killer or someone like that, and tell a story from his dog's point of view it would make him look pretty good. I just suggested that much to Gahan Wilson. I said I'd like to do something involving Jack the Ripper's dog. He wrote back to me, I still have the letter—that's how I know when I came up with the idea—it's dated May 11, 1979, saying, "I like the idea, but I'm just too busy." I kept the letter because underneath his signature he drew a picture of the dog. It looked just the way I thought the dog would. Every few years I'd take the letter out and look at it. I sort of wondered what I would have written, because I didn't have it worked out at all. I just liked the situation. Then I forgot about it until two years ago when my agent Kirby McCauley said, "I've got to run now, I'm having dinner with Gahan Wilson." I remembered that Gahan was one of his clients too; I had changed agents since I had gotten the original idea. I went and pulled the letter again and I looked at it. I said, "Gee, Now we're with the same agency. Maybe we could work something out." The letter was so sketchy I could see why Cahan didn't know what I was talking about. I thought that if I sat down and wrote a brief prologue—just a few pages—it

might give me an idea as to what would happen in the story. At the time, I was simply thinking short story or novelette length. First, I started thinking of Jack as a ritual killer rather than a psychopath. For another thing, I had once written a short story involving Jack the Ripper. It was for *Heavy Metal*. It was called "Is There A Demon Lover In The House?" I had actually skimmed a book about Jack the Ripper at the time, and I remembered that the last Ripper killings occurred in October. I said, "You have a ritual killing situation and October. What's special about October? Well, Halloween, but there's a Halloween every year." I was looking for something to distinguish it. I said, "Well, there's not a Halloween with a full moon every year. That could make it special." That's when I got the rough idea for a sort of game. A stylized duel between two sides involving something that would culminate on Halloween. I decided to write one section for each day of the month up through Halloween, I said "Well, I'll just write a few sections to get it going." And I did. I still thought it was going to be something very short. I said, "Oh Hell, I'll do the whole thing and show it to Gahan." So I started writing in high gear. The book went very fast. I was halfway through it when the sections started getting longer—could this be turning into a novel? I just kept writing, I finished it pretty quickly, and I called Kirby the following Sunday afternoon, when he wouldn't be bothered by other callers. I started describing the book to him, and he said, "That sounds pretty good. You want to write that one?" I said, "I've already written it; it's sitting on my desk." I hadn't told him I was doing the book. I decided I'd just wait until I was ready and then let him know. So, I asked him to talk with Gahan Wilson and see whether we could work

something out. And anyhow, things worked out very well indeed. I've already done an audio book version. It's the only uncut audio book I've done, out of ten of my own plus three other authors. I did the whole thing in a single day. It came out at about the same time as the book. I talked to Gahan Wilson just the other day, because I'm editing for some anthologies. One is on martial arts, and one is on gambling. The martial arts one is called *Warriors of Blood and Dream*. The gambling one is called *Wheel of Fortune*. Gahan used to hang out around casinos years ago in Europe, and he had an idea for a story called "Casino Mirago," set in Portugal." He's finished it and it's quite good.

**AM:** *A Night In The Lonesome October* and your recent collaborations with Robert Seckley seem to be a departure from your usual Work. Will you be continuing in this direction?

**RZ:** Yes and no. I'm doing a third book with Bob Sheckley. We had a three book contract with Bantam. There was *Bring Me The Head Of Prince Charming, If At Foust You Don't Succeed*, and the new one will be called *Imitations Of Immorality*, which hopefully we'll have wrapped up sometime this year, and see published next year. That will probably be it. Fred Saberhagen would like to do another book sometime. That's sort of on hold. I've got some other things going. I have a western historical novel coming out, in February of 1994, which I did with a writer named Gerald Hausman. Our publisher liked it a good deal. It's for Tor Books. The editor, a fellow named Bob Gleason, is quite an authority on western fiction. He mentioned to us recently that he'd like another. I decided whether we do it or not, I would like to

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at least study the historical background. I've been a history buff for many years. A second book by us would be a few years down the line, though, because we both have a lot of other work lined up. But it is a pleasant change to do something outside the area. I do like working with Gerry. He's one of the writers with a story in the martial arts volume. *He's a Sokol teacher, and he* had one of the better stories in the collection. It's not an ass kicking story either; it's one of the ones that talks about the healing aspects of the martial arts, the fact that it's for developing yourself as well as learning to fight. The one he did for the gambling book is very interesting also as he was a friend of William Saroyan and his family. Saroyan was an interesting person, to depict here, as he was a compulsive gambler. He told this story in Saroyan's voice as he remembers him telling it. It's called "Tyger, Tyger, Purring Loud." I met Gerry originally because he was my kids' English teacher at the local prep school. We just sort of hit it off.

**AM:** You've collaborated with a number of authors such as Philip K. Dick, Fred Saberhagen, Thomas T. Thomas, and Robert Sheckley. How different was it to write with each of these writers?

**RZ:** They're all different. That's the reason I like it. You learn new tricks working with other people—and no two collaborations are the same—well, I shouldn't say that. No two writers I've ever worked with have been similar to any other two. Books have been similar to each other because I've done more than one with somebody. Fred Saberhagen outlines to great length and detail. When I get something like that, I can write very quickly. On the other hand, Bob Sheckley doesn't like to outline. He considers himself basically a short story writer. So I have to do the outlining here, as Saberhagen does the outlining when the two of us are working together. I'm also good at doing re-writes if someone else wants to write fast and give me a sloppy draft. I can clean that up very quickly. With Phil Dick, he had been blocked initially on his book *Deus Irsu*. I got it because the publisher got him to agree to let someone else finish it. When I started writing it

and showed him what I'd done, he got un-blocked. He'd write a section and I'd write a section. That was the only book, up until I met Gerry Hausman, where I'd written alternate sections. In the case of Phil Dick, I changed my style to make it closer to his. In the case of Gerry Hausman, our styles are sufficiently similar that we decided to simply leave them as they were. It's a double story line. The whole thing was his idea. He came over one afternoon and we were having coffee. He said, "I want to tell you about a book." I said, "Don't do it, it'll take the edge off and you'll never write it." He said, "No, I want to tell you about this." It was a pair of interwoven stories involving two mountain men in the early nineteenth century. It sounded neat. It was one of the few times in my life that I ever felt it would be nice to steal someone else's idea. So what I would do, I decided, was wait a few years and ask Gerry if he had ever written it. If he said no, I'll offer to buy it from him. But when we finished our coffee he said, "Would you be interested in writing it with me?" I said "Yes!" right away. We did it as a hobby. We didn't have a contract or anything. He'd write a chapter and when I had a chance I'd write a chapter. We kicked it back and forth for a long time.

**AM:** D.C. Comics is currently working on a graphic adaptation of the *Amber Chronicles* for Byron Preiss, when will that be out and what can you tell me about it?

**RZ:** The artist on the first one was Lou Harrison a very good artist. The first one is finished, and I'm quite happy with the artwork. The guy doesn't have the usual diffuse lighting in the individual panels that most comics art has. Harris actually got live models, established a light source, and posed them and photographed them and worked from the photographs, so he has all of the shadows in the right places. D.C. (Comics) wanted to have three issues in the can, though, before they brought the first one out. When I was at the San Diego Comic Con two weeks ago, I saw the art work on the second one. So probably next year some time, they'll start issuing them. What they propose doing is three comics per novel, so there will be thirty all together. I believe each

group of three will eventually be bound together into a graphic novel.

**AM:** Ten *Amber* novels, a role playing system, and several fanzines devoted to *Amber*. Are you at all surprised by Araber's success?

**RZ:** Oh yes. It's very gratifying. Things just catch on sometimes. It's nice when they do.

**AM:** With all the success that you've had with *Amber*, I imagine there's a lot of pressure for you to write more *Amber* novels, do you ever wish it would all just go away?

**RZ:** No, because I won't do it unless I want to. I'll probably do more eventually. But I've solved the problem, for the time being, I think. Recently I decided I would write *Amber* short stories. I'm using them as a medium for clearing up some of the loose ends in the novels.

**AM:** Where do you plan to sell those?

**RZ:** Oh, different places. It's not something I can schedule. I wrote one while I was in England, about a month ago. I thought I'd write a little bit each night. I had a fellow interested in doing a leather-bound addition of short stories. The price was good, and I decided I'd try an *Amber* story from the point of view of a character I hadn't used yet as a viewpoint character. It's also scheduled to appear in Eric Wujcik's *Amberzine*.

**AM:** Given your well known dislike of the movie adaptation of *Damnation Alley*, can we expect to see an *Amber* movie?

**RZ:** All of the *Amber* novels are under film option, and I would take their money. I just hope they'd do a better job.

**EM:** I enjoyed *When Pussywillows In The Catyard Last Bloomed* and *To Spin Is Miracle Cat*. Is there a new book of Roger Zelazny poetry on the horizon?

**RZ:** No, though when I was in England I was interviewed by poet Steve Sneyd. He was talking about the use of poetry in my novels. I mentioned that *The Hymn To The Sun*, from the Egyptian Pharaoh

## An Interview with Roger Zelazny

Amenhotep, was a much longer piece than what we used as section dividers in *Flare*. He said, "How much longer?" I said, "Oh, pages and pages." He then said, "Why don't you do it as a chapbook?" I thought about it. That's not the only place where I did classical poetry adaptations. I use Robert Lowell's theory of imitation when I'm working with such foreign language stuff. I used it first in *Lord Of Light*, with the Hindu and Buddhist material I employed for chapter breaks. Later on, I used it in *Eye of CAT* for the Indian material—the chants and the prayers. *The Hymn To The Sun*, which is seventh century Egyptian was actually ripped off by the psalmist who became the basis for the 104th Psalm. So what I did was I put together a manuscript with an introduction, explaining Robert Lowell's theory of imitation, and then talking about my piece. Then I have the complete version of *The Hymn To The Sun*, and then an appendix containing

the 104th Psalm, to show the similarities. I have another appendix containing all the pieces from *Lord Of Light*, and a final appendix showing the *Eye Of Cat* material, and explaining the different categories involved.

**AM:** At the beginning of your career, you had an amazing amount of critical acclaim. How did the pressure of having to live up to everyone's expectations shape you as a writer?

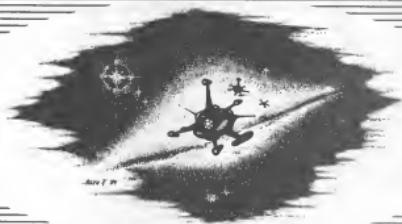
**RZ:** I don't know. I just don't think about it much. I guess you have to be a little arrogant to be a writer. I decided early on that just because a lot of other writers were bothered by getting bad reviews didn't really mean that the things were particularly important. By the same token, the good ones didn't mean all that much either. So I just forget about reviews and I wrote what I wanted.

**AM.** How would you like history to remember Roger Zelazny?

**RZ:** Oh, I don't know—that's a hell of a question—I don't tend to look at my stuff that way. I just look at it a book at a time. Something like the Amber books are in a different class. I try not to anticipate. I don't know what I'll be writing a few years from now. I have some ideas—I have lots of different things I want to try. I almost don't really care what history thinks. I like the way I'm being treated right now. Jane M. Lindskold has just turned in a literary biography I'm extremely pleased with. I think she did a wonderful job. It will be coming out from Twayne books.

Zelazny's biography is available from Twayne books, ISBN 0-8057-3953-X.

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## SETTLEMENT

by

Hal Clement

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In his quarantined quarters in Titan Station, protected by the architecture from the ailments of his colleagues and from Saturn's radiation belt by half a kilometer of ice, Barn Inger clipped a sensor to his ear and waited. Status, the processor dedicated to keeping track of the station personnel as well as of the information they were accumulating, presently reported the reading aloud.

"Phase 22; sixteen percent above accepted normal, presumably tending downward. Subjective?"

"I feel fine. I need something active."

"You should be all right for about twenty hours allowing standard safety factors, twenty-five to thirty hours without them, possibly fifty considering your personal viability. No confidence in the last."

"Fine. Someone has to go down to the factory to map those roots. Arthur's machines can scrape but not dig. Any of you feel your better set than I am to do it now?" The other scientists in the squadron had of course heard the whole exchange; no one ever *saw* into another's quarters, but auditory privacy in the station took a poor second behind the need of everyone to know who might require help and when.

The only answer came from Inger's regular watch mate, Gene Belvew. "I'm flying Theia right now, on polar air circulation. If you'd rather not go down physically, you could take over this run and I could land in *Crius*. Any preferences?"

"Maybe I'd do better if the drill kicks." Inger pointed out, stroking the luxuriant blond mustache which none of his colleagues had ever seen. He did not, of course, mention Belvew's bone problems, not merely because they were common knowledge. Courtesy was not the same as privacy, but they were related.

"Good point. *Crius* is yours, if no one else has anything to raise."

No one did as far as the trip was concerned, but Ginger Xalco's clipped voice came with a question.

"What route will you take to dock?"

"Straight up the axis, then to the pole. Unless—"

"That's all right. Just be sure of your suit before you leave your own place, please."

"Sure. Don't worry; I'm a careful type."

Neither speaker, and none of the listeners, had to be more specific. Actually, Ginger's words had been superfluous, though no one blamed her for speaking. She had the usual reason for concern; her own blood was slowly being wrecked by a very ordinary but unresponsive leukemia, and no one had any idea what adding Inger's ailment might do. His "Cepheid Sickness," badly misnamed by a medical worker who knew very little astronomy, caused him to cycle between extreme polycythemia and severe anemia. Unlike that of a Cepheid star, its period was unpredictably variable, ranging from one hundred fifteen days to one hundred eighty and, rarely, more. The almost unique quality of the ailment was that no one had yet established its cause, far less any treatment.

Most of the diseases currently decimating the human species followed a similar course: they appeared suddenly, killed a few thousand or a few million people, had their causes identified, and then yielded, except for an unfortunate minority of the victims, to quickly developed treatment.

The minority formed the shock troops in an all-out research war which blended chemistry, physics, astronomy, and other disciplines in the hope of learning *in detail* how life really worked. Nothing less seemed likely to account for the sudden surge of emerging new ailments. Even the advance of genetic engineering seemed inadequate—there just weren't, as far as anyone could tell, enough mad scientists or even mischievous genetic hackers in existence to account for the frequency of the new mutations.

Barn inspected his environment suit carefully, made sure it was fully charged, disinfected its exterior with chemicals and radiation, warned the others that he was emerging, unsealed and passed through the virus-proof door, and made his way along the passage "upward"—toward the center of the rotating station. Here, his effective weight now zero, he drifted along the axis to *Crius*' dock, and in a few minutes reached the craft.

He devoted over three hours to the preflight check, only partially because he would actually be aboard this time instead of walldoing the jet from the station. With only two remaining ramjets—no one had any real hope of repairing the *Oceanus*, though the possibility had been discussed—no avoidable risks with the craft themselves could be taken. Also, while Saturn's particle radiation was feeble while the satellite was nearly between sun and planet, unless emergency justified major risk. Danger was taken for granted, and none of the group really expected to get back to Earth, but they hoped to have enough of them survive to finish the project. Inger had weighed—on his own, without consulting Status again—the importance of this job against the likelihood of his becoming incapacitated before it was done, and decided that a modest delay in the descent was in order.

Satisfied at last, he drifted into the pilot's "couch" and spent another twenty minutes testing his suit controls. Finally, using the spring launcher which saved reaction mass, he kicked the vessel free and allowed it to drift slowly away from the rough sphere of welded ice fragments.

He could see both Saturn and sun, at screen coordinates which meant that they lay in opposite directions. The lumpy assemblage of ring chunks from which he had come blocked out nearly half the sky and much of Titan, while the satellite in time occulted a large fraction of the remaining starry blackness. Their almost spherical shapes were distorted grotesquely by the Aitoff projection. This bothered neither Inger nor the others sharing his view; all had become skillful with the appropriate mental corrections. Inger allowed *Crius* to drift until the station filled less than a tenth of the screen's area, spun her on a lateral axis until the pipes pointed "forward" along the station's orbit, made sure she was in rocket mode, and vaporized a small amount of reaction mass.

The craft had not yet made any descents, and her tanks

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contained only a small amount of water from the rings, loaded when the station was being built. Even the little he had now used committed *Crius* to atmosphere after two minutes or so of falling away from the station, but the man wasted no time or thought on the fact that he, too must descend.

An hour later and a third of the way around Titan he felt the touch of drag. Orbital velocity, less than two kilometers a second, was too low to cause a serious heating problem, and before making a full half circle from the point where he had left the mass of ice—which was still in view—he was using wings and aerodynamic controls, and had uncapped the pipes into ramjet mode.

The rest of the flight was uneventful; it was a new adventure for the aircraft, but not for Barn. Finding an adequate cloud and using it to fill the tanks with hydrocarbon, had been a long routine. Clearing the tanks first of the traces of unused water was not, but he knew very well what ice crystals at liquid methane temperature could do to *Crius'* pumps and needed no reminding from his fellows. He took care of the matter early enough so that Belvew, letting his attention wander slightly from the jet he himself was operating a quarter of the way around the satellite, felt no temptation for over-the-shoulder driving.

Finding the factory and landing beside it were also routine; Inger had been the first to take one of the ramjets to the surface. The fact that he had not been physically aboard then was incidental; the Waldo suits worked either in direct-connection or remote modes, the latter suffering only the signal-travel delay which the distances involved made negligible.

*Crius* slid to a stop a couple of hundred meters from the factory. Its pilot completed the power-down check of the aircraft and the Titan environment check of his suit, and emerged. There was no need to report the fact even to his partner; everyone had presumably been watching carefully.

Even Belvew was having a problem of his own.

*Theita* was high enough in the smog layer for Saturn and its nearly edge-on rings to show dimly on her screen, though they were rising and setting too fast for comfort. Gene ignored the sight as best he could. Circling Titan's south pole at one hundred meters per second and increasing the radius of the circle by half a kilometer each time around took no attention, of course; that sort of thing could be set up in advance. The satellite's rotation axis being a couple of degrees from perpendicular to its orbit plane was merely background information, though it was responsible for Saturn's present peek-a-boo behavior. The bothersome item which did demand attention was a steady altitude loss by his aircraft.

It was not frightening. The ground was fifty kilometers down and the descent mere centimeters per minute, but it was puzzling. It was also annoying; correcting the altitude manually every minute or so was a nuisance, while setting the automatic pilot to do it might hide important data in unrecorded corrections. There was also the matter of self-respect; the sergeant wanted to explain the phenomenon himself before Status, whom he preferred to think of as Nursemaid, made him feel foolish again. His rank might imply a mere observer rather than the first, but he considered himself perfectly qualified to think.

Thrust and attack were correct, and corresponded to the airspeed. Energy consumption matched the mass of the atmosphere being cycled, the push indicated by the ramjet mounted sensors, and the weight of the aircraft. There were no lake thermals at this height at latitude. There must be some

obvious factor he hadn't—

There was. The calm voice of Status, committed to reporting changes of background whenever they reached a certain probability without regard to their dangers, made itself heard.

"There is a slow general descent of the polar air mass covered so far on this run. Symmetry suggests it to be quite precisely centered on the pole itself. There must be poleward flow above *Theita*'s present altitude, and equatorward below. Repetition of the present flight pattern at a larger number of levels than originally planned appears in order. When the entire volume has been vector-sampled I suggest comparison with the total upward flow over the lakes."

Belvew could think of only one response which might restore his morale.

"How does air density match norm for this height? It should be greater if there's such a huge downcraft."

"It is. Qualitatively this could explain the effect."

"And quantitatively?"

"Unanswerable until vector analysis is more nearly complete."

Another thought restored Belvew's self-esteem even further, and he voiced it before the analyzer beat him again.

"Is there enough more smog in the air to account for the higher density?"

A human voice cut in. Even now it sounded slightly amused, though no one knew why.

"Wouldn't more polymer drop the density? It's made from the surrounding gasses, and would use them up as it's produced."

"It would drop volume, Maria. The mass would still be there and contributing to pressure, I'd say, and that would start inflow which would carry solid and liquid particles from a distance—" The debate was interrupted.

"The inflow wouldn't be in. It would be around. There's Coriolis force even with a sixteen-day rotation and small planet size, and no surface friction fifty kilos up." The new voice was Arthur Goodell's, and no one added anything for a moment; the old fellow had an annoying habit of being right, as well as being officially their ranking member. Belvew was about to take a chance on mentioning the minuteness of the Coriolis effect, but was saved by Status' voice.

Goodell himself, in his sealed quarters a hundred meters from Belvew's, paid no attention to what the computer said. He had known as the words left his mouth that his reasoning was sloppy. It was getting constantly harder for him to think coherently, and more and more of his time went to wondering how long he could be useful at all to the project. The pain kept getting worse. He had been told long ago that the discomfort of SAS—synapse amplification syndrome—was less severe than that of shingles, but he had never asked how his informant knew. If anyone had ever suffered from both it must have been at different times for the effects to be distinguishable, and whichever had been experienced later would have been remembered as being worse. Arthur Goodell had the scientists' natural mistrust of data dependent solely on human memory. Besides, he knew of no technique for actually measuring pain.

He knew all he wanted to know about SAS. Unlike shingles, it affected every square centimeter of his skin at one time or another, but caused no external markings. Like shingles and chicken pox, it was produced by a virus, one which had been identified and mapped within weeks of the first recognition of the disease. It differed from the shingles

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agent in only four amino acids at specific points plus one bundle, perhaps originally a separate organism, which rendered it unresponsive to both natural and engineered human immune systems. The four amino acids were few enough to be explained by natural mutation, but numerous enough to make human tampering a reasonable suspicion; the bundle was natural, but might have joined the virus either with or without human assistance. It made no difference to Goodell he should be blaming Nature's indifference or human malice; the molecular engineers who now made up most of the medical profession had not yet worked out either a nonlethal contravirous or a simple chemical treatment.

They had, of course, a lot of work to do on other ailments, and there were only a few hundred cases of SAS to worry about, so there was no use complaining about being at the short end of a triage situation. That was an everyday state of affairs for humanity in general.

With the pain growing ever worse, what he really wanted now was not a cure—not exactly. He wanted an opportunity. This should, he felt, be found some time on Titan: one of Maria Collos' gel pools, not too far from a lake, and isolated in some way from the rest of the moon's surface would be ideal.

There were a few traces of impact craters on the ever growing map Goodell himself was developing. Their walls might provide isolation, though all seemed to be badly weathered or nearly buried. There seemed to be no high winds in Titan's heavy atmosphere, and methane rain should be a far weaker erosive agent than water, but both had had several billion years to do their work.

At least two of the craters on Maria Collos' less specialized maps did contain small lakes. This was hopeful, and the maps still being revised and extended, partly in the standard course of planned operations but often by Goodell himself. He wondered more and more frequently how long he could keep that up; solid, detailed work did still keep his attention from pain, sometimes for hours at a time, but the distraction of his body was getting harder and harder to fight.

The chances of finding an ideal site for his slowly developing personal project were actually decreasing, though he was not admitting this yet to himself. The equatorial regions had now been pretty well mapped, and his personal travel problems made the rest of the satellite rather less suitable, but he still had hopes. He might be short on time, but not yet on patience.

He turned his attention back to the display of Belview's—more correctly *Theia's*—Aitoff screen, and resumed looking for ground images which might bear detailed study. Even polar areas might be usable, however less acceptable.

But watching quickly became boring, and boredom gave the pain access to his attention. He wrenched his mind back to the Titan Station, the best place to find the immediate, serious work which was almost the only thing able to keep his attention away from his body for long. Belview was in no trouble, and the new atmospheric data seemed trivial, however interesting. There was one bit of chemistry to be rechecked, but it would be a while yet before any more data could come from Maria's tar pools, gel pool, prebiotic reactions, or whatever they were. He hoped they would turn out to be the last, since his ripening plan practically depended on it; but he was decades past conclusion jumping or even hasty action, he hoped.

The plan itself, though still tentative, was also able to hold his attention, sometimes for a full hour. He did not cut off his

connection with *Theia's* screen—there was always a chance of something's happening—but turned to another display.

The argument about atmospheric currents and polymerization had ended, and Goodell neither knew nor greatly cared how it had turned out; he was a theorist, greatly outranking Belview, and would consider that matter when and if it became important.

The screen he now faced showed most of the scenery around *Oceanus*, minus a few gaps which her remaining cameras could not cover though Goodell had unobtrusively reported his mission. While he himself did not fly because the pain smothered his control senses too often, everyone had Waldo suits and could control the jets.

The factory was there and the ice mountain also showed. The mysterious gel area which had caused Ginger's misadventure and had now expanded or moved to include the wreck showed only partially on the screen; this was why he didn't know whether it was crawling or growing or even whether *Oceanus* was sinking in it. The last seemed quite possible from earlier experience, and Goodell badly wanted to know, but it was important to set up the preplanned part of the research program while enough of the group were still in condition to carry on routine. He didn't want to attract attention by asking for a modification.

His project was not merely private but would be quite unacceptable to the others. It would involve breaking the agreement all had made after the unauthorized Xalco landing. It would also be a major violation of regulations, though that would mean less to practically everyone. Science had become a military discipline out of necessity, granting the necessity of saving the human species, but scientists were still individuals.

He might, of course, get his answer by luck. The third ramjet, *Crius*, was now on the ground with Inger—Goodell suddenly wondered how long his mind had been wandering; he had not been aware of the landing—about a hundred meters from the factory, and her cameras might supply information he wanted. At the moment they didn't. They gave full-hemisphere view around *Crius*, but the craft provided too low a viewpoint for his needs.

Barn Inger had emerged and was examining the ground. There was an embarrassing gap in the factory data due solely to poor planning, and he had to fill it. He might already have seen what Goodell wanted to know but didn't want to ask, without considering it important. Maybe Inger would need to shift his ramjet, so the old man—he was nearly forty-five—kept *Crius*' Aitoff image on one of his own screens and watched it closely.

Barn had noticed casually that the wreck was now on the pool rather than beside it, but motion of the tar had long ago been left for Status to keep track of. He did remember that Ginger had stuck when she walked on the glossy surface and that Belview, on his first landing in *Oceanus*, had started to sink; but he had too much else to occupy his attention right now. The wreck had been lowered down and allowed to cool on the local ninety-plus Kelvins; anything about it which anyone might want to check later would presumably still be there when and if the time came.

Inger's work on the planning slip called for holes in the ground. The dirt was largely water ice, heavily laced with silicate particles and microscopic grains of polymer which had settled from the atmosphere. Physically it was rock rather than dirt. Inger was not trying to resolve fundamental questions like how the silicate had found its way up from Titan's core or why the tars had mixed with the water instead of forming a

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layer on top of it. This was for theorists, later. He needed to find which of the numerous roots which the growing factory had extended in various directions corresponded to which analytical reader in the orbiting station; the roots themselves were numbered to match the instruments, but no one had thought to provide any way of telling which way a given root was extending. This, to put it mildly, was hampering the surface analysis part of the project.

Low-pressure ice—ice—at ninety-four Kelvins is not slippery, at least not under the Titanian weight of a human being. Neither is it fragile. It is simply rock, perfectly usable for construction when pure and presumably, though no one had had a chance to try yet, still stronger though less workable when full of the hydrocarbon flour which the chemists still called “tar.” Getting a drill into it was turning out to be a problem. Barn Inger massed, in surface armor, just under a hundred kilograms; on Titan’s surface he weighed just over thirteen, less than he would have on Earth’s moon. Even with the ice not slippery he lacked both weight to make the drill bite and traction to turn it. The tool itself was powered, but at high speed it simply skittered around on the surface, while at the lowest RPM available the wielder found himself pushed sideways whenever it started to bite.

There were ice boulders from the cliff scattered around which might have provided backing, but none was in just the right spot. The proposed hole was random; Inger had located a root by microseismology before attempting any drilling. If the same instrument had been able to identify it, there would have been no trouble, but it would be necessary to drill to a point near the conduit and feed in some chemical identifiable by the factory monitors when the root picked it up.

“Can any of those ice chunks be moved?” Maria Collos asked at length. “You could build yourself some sort of backing to lean against, or even brace the drill against.” The amusement which bothered Goodell even though he did not know he had inspired it was still in her voice.

“Worth trying,” Inger admitted. He set the tool down and walked, in the awkward fashion dictated by Titan’s gravity, to a lump of ice whose volume he guessed at about a half a cubic meter. It was clear, apparently one of the fragments shattered from the nearby cliff when the factory had first been planted. He got a grip on one of the rough sides and tried to lift, without success; even on Titan it must weigh seventy kilograms or so, he suddenly realized. Even at the present phase of his illness, it was too much for him in armor.

Rolling, while still awkward, was more successful, and in a few minutes the boulder was over the root. He settled it on one of its narrower sides to provide more height to lean against, picked up the drill, and made another try.

Heavy as it was, the ice slab fell over as the tool made a brief, tentative bite.

“Right direction,” he said thoughtfully to the watchers, who now included even Belvey, as he picked himself up. “A pile of smaller stuff against the far side should take care of that.” The smaller stuff was plentiful and easier to carry, and in a quarter of an hour a slope of what had to be thought of as rather low-density rock and gravel was bracing the back of the largest fragment.

The direction might be right, but the distance had not yet been reached. Another burst of power on the drill sent the man along the wall.

It was more than an hour before the structure had grown to an acute-angled “V” with solid bracing on the outside, an inward lean on the inside to give him backing for a downward

push, and a pair of small but reasonably heavy blocks which should keep his feet from slipping toward the opening of the “V.”

They didn’t, and by this time Maria was not the only one being amused.

Barn Inger got back on his feet, breathing heavily—not entirely from fatigue, though even the best armor still made activity difficult. His glove clicked against his face plate as he unthinkingly started to stoke his mustache.

“All right. Friction just doesn’t count, even if ice isn’t slippery here. Ginger, or someone, turn *Crius* so her pipes point this way.”

“Better get behind your wall,” the woman promptly snapped. “A push that’ll turn the plane may be too much for your armor. I suppose you want to weld the stuff down.”

“That was the idea. I won’t get behind the pile, I’ll get away from it; then neither of us will have to worry. In fact, I might as well get on board and do it myself.”

“I’m already tied in,” Ginger responded, “and you can tell better from outside when I’m lined up right, and which pipe to use when I stop swivelling. They’re far enough apart so it will make a difference. How much reaction mass should we budget for this trick?” She had become just a little less impulsive, her voice remained clipped and almost snappish.

“It shouldn’t take much, and the tanks are full. Once you’re lined up I can get right next to the wall and tell you when melting starts; you can cut off right away when I call. We could use a quarter of the juice and still have plenty for a takeoff. There’s nothing to worry about.” Barn moved away from his construction toward the left side of the jet, so that the exhaust—the pilot would have to use rocket mode, of course—would reach the wall before touching him. Only a little more than a sixty degree swivel to the aircraft’s right would be needed for proper aim, not too much thrust; the ice was smooth, at least, even if not slippery.

Goodell was now watching the *Crius*’ Aitoff screen with his fists clenched near his knees—on them would have hurt—and unblinking eyes. The aircraft’s position shouldn’t change much, but the direction of the tail fin camera, which had the highest viewpoint available, surely would.

Ginger capped the pipes and fed power and reaction mass into the left one’s chamber, gently at first. She, too, was watching the Aitoff, but not for the same reason as Goodell. She stopped the thrust increase as the runners began to scrape and the scenery to move, and began feeding brief jolts to send the craft in a rather jerky turn to its right. It slid forward slightly each time; there was no way to stop that, though it increased by a few meters the distance from Inger’s wall.

She cut the thrust at the same instant the man on the ground called out.

“Right pipe is just in line—you overshot a bit. It’ll be easier to use that one for melting.”

“Obviously. I’d have light it anyway to turn back. I certainly don’t want to waste mass swivelling all the way around, and I’m sure you don’t either. All I’d be risking is the ship. You’re down there.”

Barn made no answer to this point. Neither did Goodell, though he did not fully agree. A full turn would have provided a fine variety of viewpoints both high and low. Enough, he felt, to a little image processing give him a fully detailed three-dimensional model of the “pool.”

“Shouldn’t you get a little farther to the side?” asked the woman. “I’d hate to either blow you away or cook your armor.”

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"I'll be all right. The exhaust doesn't spread much in the first few meters."

"Wrong," Belview cut in. "Believe me. That's dense air."

Ginger, from personal experience, agreed emphatically, and Inger moved a few meters rather than make an issue.

"You're lined up fine," were his last words. "Light off."

The woman fed liquid and energy to the rocket, and all watched the loose pile of rocks with interest. The last hour or more had been typical of the group's problems from the beginning; unexpected factors had time and again caused what should have been a minor, routine operation to take more time and far more effort than hoped. These had not been foreseen clearly enough, or not foreseen at all, but very few could be considered matters for blame. Any environment represents a vast number of factors; any unfamiliar environment represents more than an ordinary mind can consider all at once.

As it happened, plenty of information about the linear and volume expansion coefficients of ice near Saturn system temperatures had been gained while building the station out of welded ring fragments. That welding, however, had been done much more economically and gradually by microwave heaters. Even so, the project had managed to kill nearly a third of the original members of the group in various ways, not always particle radiation; but unfortunately it did not occur even to Status that this might be relevant now. It was.

The watchers expected the surfaces of the ice chunks which Inger had used for his wall to liquefy quickly and start to drip, or possibly blow away in the stream of hot gas, but it didn't work out that way.

Within a second of the exhaust's enveloping the wall everyone heard a series of sharp snapping sounds, not quite explosions. Not everyone saw the flying pieces of thermally shattered ice. At least, not in time. One of them, half the size of his helmet, struck Inger in the face. The others heard the impact; no one ever knew whether Inger himself did. He toppled backward with fascinating deliberation in Titan's gravity, and settled to the ground with his feet more than a meter behind the point where he had been standing.

He neither spoke nor moved.

"Left one forty-seven standard." Maria's mild voice was the first to be heard. For once, the amusement was gone. There was no question whom she was addressing, and Belview banked his jet sharply to the left. A real-surroundings view chose that moment to appear on his screen, but he didn't need it. He knew he was in the station, flying with his waldo suit; he knew he would have to bring the jet back up, board it physically, and get back to the surface before he or anyone could be of help to his partner. Briefly he wondered whether it would be quicker to climb to orbit from where he was, instead of getting to the equator first, but mental arithmetic disposed of that notion. A nearly polar orbit would take less time to get him near the station, but cost too much exhaust mass to match velocities. More than he had or could carry. He had a quarter of Titan's circumference to traverse before leaving atmosphere, and there would be hours after that before he or anyone else could get back down. All three jets were now in atmosphere or on the ground. No one expected him to be in time—no one seriously believed there was any time even now—but no one argued the need to try.

Not even Goodell. He was jolted enough not to think, for several minutes, of recording the new surface features Belview's cameras were covering. Even when he did, his motions were clumsy than usual in setting up the equipment, and when the adjustments were complete he realized that little

would probably come of it. *Theia* was traveling as fast as ramjet mode would permit, which meant that she was in thin air well above the heaviest smog. Her cameras did range into the near infrared, which gave some surface detail even from this height, but there was no radar and little chance of catching the sort of feature Goodell wanted with enough detail to identify it.

Nevertheless he watched. The southern hemisphere was not yet mapped in anything like the kind of detail available for the latitudes between the factory and Lake Carver. Gigabytes of data had indeed been recorded by Maria's instruments, but were not yet combined and translated into readable map form even in Goodell's quarters.

He watched tensely and silently as images flowed across his screens. Sometimes they were clear, sometimes entirely meaningless; Titanian smog was far from uniform. Annoyingly, the regions around lakes tended to be worst, since the bodies of methane mixture created vertical air currents capped by clouds; methane vapor, at any given temperature and pressure, is little more than half as dense as nitrogen. This had long since ceased to be a surprise, but it could still be a nuisance.

Twice Goodell thought he glimpsed a lake with hills around it. The first time he reacted too slowly, and recorded only an approximate position. The second he was more alert, got precise map coordinates, and then had time to realize how the concentration had spared him whole minutes of awareness of his pain. He thought for a moment of calling up records immediately to build a detailed map of the area, but it seemed better simply to watch and note positions until *Theia* reached the equator, banked east, and started her climb to orbit.

By the time this happened he had four more possible sites in his notes. He decided to work on them in reverse order, since the last were closest to the equator and potentially most suitable for his purpose. The presumably frozen human body on the surface was as far from his mind, right then as his own pain.

The first item, after details had been added by Maria Collos' files, turned out indeed to be an irregular lake of about two square kilometers area, near the southern edge of what almost had to be a badly eroded impact crater some fifteen kilometers across. Unfortunately, nothing Goodell could do quickly with the records revealed the slightest sign of any of the smooth areas of glassy/tarry material—the "Collos Patches"—which were central to his needs.

The second, over three hundred kilometers from the equator, seemed ideal almost from the first. The lake was much smaller, but it was accompanied by two of the patches; and the surrounding ringwall, only seven kilometers in diameter, appeared to be much more recent. Its minimum height was over fifty meters, and it rose in places to nearly three times that. Goodell drew a deep breath of satisfaction, ignoring the anguish as his expanding chest rubbed the soft material of his garment, and began to think furiously.

He was still thinking when *Theia* reached the station, docked, and departed again with Belview now physically aboard. He did not worry as the craft left; there was nothing he could possibly have done toward executing his plan just yet, and it actually crossed his mind that what had happened to Inger might make 'l : whole idea unnecessary.

At least, to the project. Goodell knew he himself would not be able to get on without it much longer.

Not *too* much longer. But there was still chemical work to do before he could dispense with analytical equipment and

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heavy thought.

He had reported the material of the "tar-pool" on which Belvew had landed earlier to be a gel, with methanol as the dispersing agent. No one had pointed out, politely or otherwise, that methanol's melting point was something like a hundred Kelvins above local temperature. Frozen jelly doesn't wobble. Goodell himself had not thought of this for some hours, and when he did he was more dismayed at having had his word accepted uncritically than by the fact that he or his apparatus must have made some sort of a mistake. Even the observing ranks should have known better.

He made all reasonable tests of the apparatus he could, allowing for the fact that the original sampler had been lost, and found nothing wrong. There had been three carbon-hydrogen bonds, one carbon-oxygen, and one hydrogen-oxygen in the principal material present. There were other compounds there, of course, to confuse the reading, but this was clearly the general background. He had not thought to look for other bonds once these had been read out; it was not at once obvious what others could be fitted into the pattern. Four for carbon, two for oxygen, one for each hydrogen—

The inspiration had come embarrassingly late. He hadn't mentioned it to anyone yet because he had no way of checking it. The original analyzer was gone, the ones around the factory were busy on the planned routine, and there was no appropriate reference material.

For no one knew the melting point of the vinyl alcohol monomer. At terrestrial temperatures it existed too fleetingly for such properties to be measured. On Titan—who knew? It could be lower than that of methanol; the molecule was larger, its one hydrogen bond presumably less effective—or maybe not; what did the charge distribution of a carbon-carbon double bond do to the polarity of other bonds on the same atoms? Embarrassingly, Goodell didn't know.

Could he redirect one of the analytical labs around the factory over to the place where Ginger had had her misadventure? The mere question of whether the wrecked jet being engulfed was not excuse enough; that had already been tabled. However, a possible major error in the data which had been supplied to Status was another matter. Goodell must certainly make as sure as possible about this point before doing anything irrevocable, however tempting his planned last experiment was becoming.

Belvew entered atmosphere, made a routine tank refill, and sent his aircraft plunging toward the factory site, following the vectors prescribed by the still deadly serious Maria. Neither he nor anyone else expected to reach the place in time to do Inger any good, but the effort had to be made. Humanity was still, in spots, more moral than logical; the word "inhuman" still carried its ancient pejorative meaning. And Barn was—had been—a good friend.

*Theia* flashed across the factory site half a kilometer up, banked sharply, and worked herself into a landing pattern. For just a moment her pilot allowed himself to picture all three of the jets on the ground at the same place and time, and to think what would happen to the whole project if even more than one of them should fail to get off again; then he focused on his landing.

He chose to come in from the west rather than the north, as the other set-downs had been made; he knew that if he overshot he would have the ice cliff ahead of him, but the cliff itself made a landing in the opposite direction impossible and he didn't want the complications which might ensue from involving the "tar" in his landing slide. He had gotten away

with it once, and felt he knew how much luck had been involved. He was going to land hot, to make allowances for the wing "ice" which had wrecked *Oceanus*, and could not even guess what the higher friction would do to the gel.

The need to stop as close as possible to his partner left only the eastward landing feasible.

He was out and running the three hundred meters, if high speed human locomotion on Titan could be called running, the moment he had completed his landing check list. Neither he nor any of the others was surprised to see the shattered face plate, nor at Inger's failure to show any sign of life.

The suits, like the station, contained pure oxygen at one fifth of a standard atmosphere, an eighth of the Titanian surface pressure. A flood of ninety-Kelvin nitrogen must have washed into the victim's face; it was unlikely that he felt much, if anything. Certainly he had made no sound. There was no basis for sight judgment; the space behind the smashed plate was full of frost. Inger's mustache was still invisible.

The rest of the body was not yet frozen; the environment armor was effective where it was intact. If anyone saw how this accounted for the frost in the helmet, nothing was said.

No one, not even Belvew, displayed feelings. Like the soldiers they had become in name and almost in fact, they were hardened to sudden death and to the knowledge that any of them might be next; the large fraction of the original group which had gone merely in the setup of the Station and its relay units had been expected and accepted by the survivors.

Belvew did note that his sight was slightly blurred as he gathered up the few kilograms of mass which had been for many months now his best friend, but he refused to admit to himself what might be causing this. There was still a job to do; the body had to be gotten off Titan quickly. There was little real likelihood in this chill that it would cause chemical—still less, biological—contamination and invalidate the entire project's labors, but this was research; the chance had to be eliminated as completely as possible.

To his relief, Belvew found his main emotion one of thankfulness that the body was still flexible enough to be fitted into the control compartment of the ramjet, and that since Ginger's escapade an override system had been installed in both surviving craft to allow them to be controlled from outside even when a suit was in the pod.

What Goodell was thinking at this point the others of course did not know, but he was still thinking. This might effect part of his plan; should he suggest that Inger's body be placed at the site he had almost decided on for himself? Or would that give some of the others a clue—too early a clue—to what he had in mind?

His pain gave the answer.

Belvew reboarded his own jet and lifted off, after spending some reaction mass to swivel *Theia* far enough to point her nose to one side of the cliff; he could not possibly have climbed fast enough to clear the elevation. Ginger took control of *Crius* and did the same without the preliminary, since she already had a safe heading. Maria guided them to different cumulus clouds to tank up. This was the first time two of the jets had been in the same airspace at the same time, and some of the group wondered whether Status would have done anything about traffic control if she hadn't. No one but Belvew was moved to ask, and he restrained himself.

Tanks full, *Crius* headed eastward and upward, climbing back toward orbit. *Theia* turned south to resume the air current study; there was no hurry for Belvew to get back personally to the station since his suit was well charged, and he

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could do very gladly without the real-surroundings interruptions for a few hours.

The station had a cemetery, a fifty meter cube of emptiness among the roughly welded ice chunks, which already held about a dozen occupants. Goodell offered to remove Inger's remains from the docked jet and convey them through the passages to join the others, and not even Yakomo, basically in charge of station maintenance objected. Contagion-consciousness was realism, not paranoia, and no one had the slightest idea that the old man might have any ulterior motive.

Actually, the motive was now a little shaken; the sight of his frozen acquaintances brought forcefully to Goodell the fact that one aspect of his plan was really superfluous.

But there was another facet. He did what he had to do, returned to his quarters, and reported to the others that his room was virus tight once more.

The job left unfinished by Inger's death still had to be done somehow. How was a subject of intense discussion, but no one seriously advised that drilling should be tried again, or that anyone should be present physically no matter what was attempted. Common sense overrode heroism.

Thermite was suggested, with the admission that this might be risky for the root being checked. The risk was, after some argument, accepted; then it was realized that while oxygen was plentiful and aluminum possibly sufficient in the dirt either of the Station ice or Titanian soil, there was probably not enough iron within reach of Titan's surface or near its orbit to make a child's horseshoe magnet.

Goodell surprised himself, though not the others, by coming up with a workable suggestion. The gel of the "patch" could be analyzed for trace elements and the input from the various roots be monitored thereafter for a match. This should eventually identify the north root. He did not mention that this might also furnish a chance to check for carbon-carbon double bonds in the "tar." He was delighted at the opportunity, but deeply worried by the immediate and uncritical acceptance of his suggestion by the others.

Of course, this provided another justification for what he was going to do—soon now, he had to admit. The place just wouldn't function staffed by Arthur Goodell fundamentalists, and it had to function. He had no living children, but did want the human species to go on. It might still accomplish something, if it got itself past this crisis.

Arthur Goodell would have to keep his mind on its own problems.

For just a while longer.

Crius would not be descending for a while; the new suggestion had made that unnecessary.

A detailed job could keep his mind off his pain—for how long?

Status would—

He would have to think about Status.

First, though, a careful job of data processing had to be finished; he needed a very detailed chart, in three dimensions, of his crater and its contained lake and tar patches; detailed enough to satisfy his own conscience on the matter of spreading contamination. The information was available in Maria's surface studies, of course. It just had to be assembled.

Five-centimeter waves got through the smog easily, but did not resolve one-centimeter details. Images from points—many points—many meters apart along the Station's orbit had to be combined using interferometric formulas which were straightforward but tedious. Analyzing some forty square kilometers of surface to one-millimeter accuracy took even

Station equipment many hours. Status took no part; this was theoretical work which might come to nothing. Only when results seemed valid and relevant would they become part of the basic record, and it was up to Goodell to decide when and if they were. So far, therefore, there was no worry about anyone's noticing his activities.

With the detailed map's completion came the need for personal judgment, which meant careful examination of the model. This took even longer.

The twenty-two kilometers of the nearly circular ring had to be examined for possible cracks which would let a methane stream flow either way. There were rivers, or at least brooks, on Titan; most of the lakes were fed partly by small, winding methane courses, though they seemed to get their principal feed from their own cumulus clouds. Very little rain had been seen to fall elsewhere than on or very close to the lakes themselves. There was nothing like the vast drainage basins so characteristic of Earth's topology. This was why no one felt much confidence that the lakes all would turn out to have the same composition, other than the basic methane, of course. Each gathered its solutes from its own neighborhood.

The lake which currently kept Goodell's attention from his pain was small, about six hundred meters east to west and little more than half that north and south, about a hundred and fifty thousand square meters of, presumably, impure methane, with the usual smooth shore line except at the points where a dozen or so rivulets entered it. The number of these was unusually great for the size of the lake; presumably the crater funneled and even higher percentage of the precipitation than usual back to its source. The depth and detailed composition of the liquid would of course have to be determined later. There was more than one way to do this; Goodell had not yet decided which to use.

One of the patches was less than a hundred meters from shore, of typically amoeboid shape, and little more than twenty-five meters in average diameter. The other had nearly ten times the area and was located, rather to Goodell's surprise, within half a kilometer of the northwest side of the crater. He noted the sizes, shapes, and locations of these as precisely as he could, and filed the information for release to Status on his personal order.

There was no evidence of tectonic activity—no ridges, ice boulders, or anything like the features around the factory. He wondered briefly whether he'd better search for still another site, but convinced himself that the small number of variables might be helpful.

Besides, the general smoothness had another advantage, he suddenly realized. He was not, most certainly, a good pilot.

It also dawned on him that he was now thinking less of what he might do sometime than of what he was going to do soon. He was not even yet quite sure just when; one problem presented by Status still had to be solved. He had had one idea, but not until after leaving the cemetery, and it was then too late.

Distracting the robot was pointless as well as impractical, since the device could do nothing in any case but inform the rest of the staff; it controlled nothing physical except its communication links. It was the people who had to have their attentions captured. If he left his quarters without announcing his intent, Status would certainly warn everyone about the quarantine violation and keep them informed of his moment-by-moment location. There had to be a good reason for leaving again, which would satisfy his colleagues that the action was line-of-duty.

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Naturally it should involve no danger to any of his fellows. Well, *preferably*. But each time the pain came back this restriction seemed less essential, and Goodell was getting worried about this in his more objective moments.

What problem—not too major a problem—would call for his roaming the corridors again?

Certainly nothing involving life support, even if that were an acceptable risk from his own viewpoint. He'd be the last to be chosen to do repair work on anything of that sort; the cause of his illness was known, but no treatment was.

Observing equipment? More promising, but he'd have to go out first to cause the trouble—and causing real trouble there would do more harm to the main project than his current plan possibly could help it. So would *real* damage of any other sort.

How about unreal damage? He had the normal scientific abhorrence of falsifying data, repugnance which for a scientist both long preceded and vastly exceeded the military offense of violating regulations, but could he straighten this out before any ripples spread? Yes, he could indeed. Slowly a smile spread over Goodell's face. It hurt, but he did it anyway.

"Sergeant Belvew, are you awake?"

"Of course. I'm flying—I mean I'm actually down here."

"Sorry. I'd lost track of time, I'm afraid. I knew you had stayed down after picking up Barn, but thought your suit would have needed recharging by now."

"Another few hours. It seemed a good idea to be here on the spot for as long as possible, since I'd had to come down anyway. Maybe if there's something you've thought of for me to do I should have stocked up on power and sleep earlier, I can't stay down too much longer now."

"It was just a question. When you retrieved Barn, did you shut off his suit heaters? His body was flexible when I took it from the ship."

"No, I didn't. Silly of me, but I couldn't bring myself—and if he'd frozen while Ginger was bringing him up, you might have had trouble getting him out."

"True enough. The fact is that I didn't think about that, and I didn't power him down either. I'll have to go back to take care of it. I know it's not exactly critical, but the sooner the better."

"I can do it myself when I come back. I could start now, and meet the Station in—how long Maria?"

"Just a moment." The woman had been busy, of course, but nothing ever seemed to disconcert her. "Since you're just about at a pole—one hundred twelve minutes to the equator, half a minute to turn, seven and a quarter to orbit speed and clearance of atmosphere, one hundred ten to intercept and two more to match—"

"Forget it," Goodell interrupted firmly. "It should have been done long ago, and I can do it in a few minutes. You must be flying a planned pattern Gene. Finish it out and come back when you'd planned. I'm leaving quarters, everyone, as soon as I've cleaned my suit."

There may have been doubts, but there was no objection; almost certainly no suspicion. Goodell was a theoretician, with rank to do as he saw fit. He was, in fact, the boss. The others were qualified, and often willing, to raise what they considered reasonable objections to his decisions; but none was likely to do it on such a trivial issue. Five minutes later he was climbing toward the station axis.

He actually visited the cemetery. He had indeed failed to shut down Inger's heaters—that memory was what had inspired his present plan. A direct and total falsehood would probably never have occurred to him. He was now facing a

probable need to lie—really lie—probably in a very few minutes, but he didn't want to do that until he absolutely had to. Not until it became unimportant whether anyone ever believed him again.

The body had stiffened by now, though not from cold. This bothered Goodell slightly; it was general policy to forestall as effectively as possible the irreversible chemistry which followed death. One never knew when more information might be needed. However, there were other subjects—other former friends, he thought briefly and grimly—and as long as the error was on file with Status it shouldn't matter much.

He made it so, without caring whether any others noticed the report. He left the cemetery, and headed not back to his own laboratory/hospital-cell/quarters but toward the pole of the station and *Crius'* dock. Status would pay no attention, and his living colleagues wouldn't know, yet.

The remotely controlled override which would allow the jets to be handled from the station even if a waldo suit were aboard was a recent improvisation, motivated by Ginger Xalco's recent unauthorized trip. It was considered less effective, and less important, than the unanimous agreement whose breach was about to make Arthur Goodell a liar. He knew how the device worked; he had indeed been mainly responsible for its design. Disabling it was a matter of disconnecting a single jack, easily done even while wearing a suit.

He did not remember whether this would be noted by Status, but this no longer mattered. He was aboard now, everyone would know what was happening in a dozen minutes or so, and no one including Status could do anything about it.

He closed the hatch, and started the pielaunch check. This was entirely passive at first, a matter of reading instruments, and would call no attention to the ship. All seemed ready. The tanks were not full, of course—but there was much more than enough to break orbit and get back to atmosphere. The fuses were solid-state devices which only went wrong catastrophically and must certainly be all right now since the jet was in one piece. Chemical batteries were at a reasonable charge. So was Goodell's own environment suit; he had made sure of that before leaving his own quarters. He could see that the launching springs were compressed, as they had been when Ginger docked. There was no status indicator for the remote controller which could release them from inside the jet, but there was no reason to worry about it; the device was too simple to be tricky. At least, nothing had gone wrong with any of them so far.

He energized the small heater which would make sure some of the reaction mass was vapor and would reach the feed pipes, waited for the required three seconds in tense anticipation of Status' voice asking what was going on, realized at last that the jets were not part of the robot's responsibility at all, and sprung the launcher.

That brought questions, a confusion of voices from everyone in the station. Goodell ignored them. He had never actually flown one of the craft before, but had followed through with his suit many times while others were doing so; and like the others, he had received plenty of training before they left Earth. He had more than one reason for concentrating on flying now, of course. He had no intention of being talked out of this, and if he allowed himself any distraction he'd be noticing his pain again. Right now it took *all* his attention, blissfully.

*Crius* drifted away from the station, achieved legal distance for minimal rocket use, and her pilot applied the thrust. It was only a fraction of a gravity, and nearly five minutes passed

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before the departure was irrevocable—before distance and accumulated orbital change would make return impossible with the available mass—and until that happened, and he had applied the sphere, he paid no attention to what anyone said. Then he uttered only one word.

"Sorry." Argument had already stopped; everyone but Belvew, who had not had access to the instruments in his quarters and had only a confused idea of what was happening from the equally confused tangle of voices, knew that argument was pointless. There was no way for *Crius* to return to the station until she had replenished her tanks in Titan's atmosphere. Most of the staff had inferred even more, using the broken agreement as a basic datum. Ginger Xalco, whose own malfeasance had been responsible for the agreement in the first place, asked the obvious question.

"Why, Arthur?"

"I know I'm being a bit early," he replied with no tremor or other sign of worry in his voice. "This is Stage Three—settlement. I've found a place to start the control run, a place where there are collos patches, a lake, and good isolation from the rest of the surface. We can now test the patches for what we hope they are—prebiotic areas, made of what may become life some day if Titan has time for it. You can, among you, run the analysis. You know what we want to find out; mainly, whether chemical evolution is really taking place, and how fast. I think the chances are good; there is something making those tar pools far more mobile than they should be at Titan's temperature, and something seems to be making them even responsive. Ginger found that out; so did you, Gene. Why didn't any of you notice that my methanol report had to be wrong? That methanol doesn't melt until its a hundred Kelvins hotter than that stuff can be? I'm only guessing what it is, but I think it's a good guess. I'll run an analysis when I get down, and supply a batch of enzymes afterward; you'll have to keep track of what they do, if anything, and watch for evidence that my system isn't as isolated as I hope. I know we don't want to contaminate all Titan; that would spoil the whole project. But we do have to see what contamination by non-native enzymes can do, and the contamination has to be in an isolated spot. You know that as well as I do. We were going to do it, eventually; I'm afraid I just lost patience."

"But why? Why?" It was Maria Collos' almost frantic voice. She was upset at last; she, at least, had guessed his full intent, Goodell felt sure. "It could have waited until the planned time. It *Should* have."

"It couldn't, and you know why." Goodell's voice was gentle.

"Where are you getting the enzymes, and what ones will you use?" Belvew, perhaps because he had less information, was less quick than usual on the uptake.

"I don't have a complete list, but there are a good many thousands. You and Pete should have fun with the chemistry. Don't worry about details; Status can help. I'm priming him with a lot of background." It was not until the end of the sentence that Belvew caught on. He practically screamed his next words. He wanted to do something, but was completely helpless except for talk.

"You old idiot! You could drop a steak from culture into the pool and get the same result! Get back up and be useful!"

"The steak will be more useful to you than I will. Shut up and think. I haven't really driven this thing before, and will have to plan the flying part of this mission. I wish I had enough mass for a few practice maneuvers, but I'd better not

risk that. It's less than an hour to atmosphere, after all." Belvew actually did shut up. He could guess why the theorist needed planning time.

Goodell had never actually flown the jets not because he was incompetent, but because the pain which resulted when anything touched his skin drowned out the sensations supplied by the waldo suits—sensations which provided the feedback necessary for real reflex-type flying control. Without the service of his sense of touch, he could fly only by visual inspection of his instruments. A living pilot in an ordinary aircraft a century or two before would have had no problem with this, having been trained to ignore everything *except* the visual input—the seat of the pants had killed far too many early flyers for anyone to trust it over instruments. Neither Goodell nor anyone else in the group had such training; the waldoes provided more tactile input than any other kind. The chemist was going to have to reinvent airplane-type instrument flying, and his principal visual information would come not from gyro-referenced attitude sensors or radar displays but from a full-sphere screen distorting its picture into an Aitoff equal-area projection.

Like the others, Goodell was used to allowing for this distortion, but that seemed to Belvew the only bright aspect of the whole situation. He was pretty sure that no sort of argument would now swerve Goodell from his intention, though he intended to keep trying. He could—thankfully—only guess at the sensations the old fellow had had to endure for the last few years. He knew that he himself might have made the present decision long ago, in Goodell's place.

But he was still going to argue.

After the jet's tanks were full. Certainly after *Crius* had completed atmosphere entry, and everyone had had a chance to see what sort of piloting Goodell could actually do.

Entry was not too difficult. *Crius* was after all an aircraft, designed for stable aerodynamic flight, and she lined up easily and without pilot assistance along the proper axis once drag became perceptible an hour or so after leaving the station. Initial entry speed was only about one and a half kilometers per second, which offered no thermal problems and quickly dropped. Goodell lit the ramjets in the appropriate speed range and spent some minutes practicing turns, climbs, dives and even pipe and lift stalls. No one even offered advice.

The watchers did grow a little tense as he started a long, gentle descent to deep atmosphere and began to hunt for a thunderhead. There was less room for error recovery with only a kilometer or two of air underneath, and as others besides Belvew knew from experience the low airspeeds needed for mass collection offered perils of their own. When a cloud did loom in the center of *Crius*' Aitoff and Goodell slowed even further, even the fairly unperturbable Maria Collos had to remove her hands from her mapping controls. Belvew, for the first time, offered advice.

"Watch airspeed and pitch, Art. Don't let anything else distract you." He spoke with a little tremor.

"Right. Thanks." Goodell's voice showed no emotion, though his actual feeling was one of pleasure. He hadn't noticed any pain since entering atmosphere; he had been far too busy even to think of anything but *Crius*' behavior.

He had stabilized now at what the others had found to be the most effective collection speed, about five meters a second above pipe stall, and plowed into the cloud with his eyes on the instruments Gene had recommended.

He could feel the bumpiness of the air as his craft met

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upward and downward currents, but by keeping pitch and thrust constant he held his airspeed close to optimal. It was pitch which gave the most trouble; entering an updraft tended of course to lift the jet's nose. This would slow her down if allowed actually to happen, and Goodell's reflexes were unpracticed. He tended to overcontrol, like any novice in the cockpit.

The first pass through the cloud had to be written off as practice; he had forgotten to set up collecting mode, and none of the others had noticed either. The practice, however, did help, and on the second try he not only took a respectable amount of liquid into his tanks but held his airspeed within three meters a second of the planned value—with the errors all on the high side. He was being *very* careful. He knew, in his head, the recovery procedure from a pipe stall, but thinking it through was one thing, reflex quite another.

Belvew noted all this without taking too much attention from his own flying procedure—after all, he did have the proper reflexes—and gave a rather obvious sigh of relief when *Crius* tanks indicated full. Goodell must have heard it, but made no comment. He probably felt much the same.

"So much for that," the theoretician remarked. "All right, Maria. My spot is at seven point one degrees south, one twenty-five point five east of the factory. Give me a heading, please."

Maria hesitated for just a moment, and everyone including Goodell knew why. If she refused guidance, he'd have to come back—

No, he wouldn't. He'd do a rough mental calculation—he must have kept *some* track of his entry point and subsequent flight path. Any lack of precision in his figures would simply waste his limited suit time, and interfere with whatever he hoped to get done.

"Heading zero nine six. Climb to eighty kilometers for best speed. At thirty-seven minutes, start descent at ten K per minute. You'll see it when your down to two K, about five ahead."

"Thanks. The rest of you: this will be the planned settlement. We'll have to plant another factory. If you can do that soon enough I may be able to do something about checking the orientation of its roots, this time—no, you can't manage that. It should concentrate on structure blocks, and someone will have to come down from time to time to do the actual building until habitable quarters are ready. I know this is sooner than we planned, and someone will still have to finish the rest of the seismic linen and atmosphere checks, but I've decided the chemistry needs to get started right now. There'll have to be a few, but only a few, analyzers at first; maybe a dozen or so. I have four, the dials say. The new factory can turn the rest out and then get at the blocks. Maria, you can slow down on mapping and take general charge."

"But I'm only—"

"You're the best for it. I know. I knew long ago. That's an order, and Status will have it on record, for what that may be worth to anyone. Use your Athenian organizing powers. Set up as many more surface analysis sites as seems good to you and that the factories can supply, and concentrate first on comparing the Collos patch compositions at random locations with the ones by the Settlement. You'll know which one to watch for change—I'll use the one closer to the lake. Don't ask any questions until I'm down; think over what I may have missed. There's bound to be something." The reference to the ancestry suggested by her name almost revived Maria's chronic amusement. Long ago he had said something which had

suggested the misunderstanding—a silly one, in view of the thorough mixing of ancestry which now characterized humanity—and she had been looking forward, some day to letting him see her picture. Now—

"One question," Belvew cut in. "I'm starting up now, and will have to concentrate on making orbit for a few minutes. How sure are you that you can make your landing—yourself?" "I'll make some practice runs when the place is in sight, and decide. I promise I'll let you know if I need help."

No one pointed out that he had broken one promise already, and for long minutes the two craft went on their respective ways. Little was accomplished at the station.

Belvew was still in orbit when *Crius* came in sight of the planet and lake, and Ginger was standing by to help with the landing. However little anyone approved of what was happening, and however much arguing might yet be done with their nominal commander, it was still critically important to save the jet. Everyone but Belvew, who had only his own screen and had to use it for flying, watched tensely as *Crius* passed slowly—too slowly, some felt—over the ring.

Still two kilometers up, Goodell shifted briefly to rocket mode, slowed down, and felt for wing stalling speed. It seemed to be just where it should be with the tanks full and wings at full camber. He reported the trial, making recoveries with various combinations of added thrust and lowered nose, and eventually satisfied himself and almost satisfied his watchers.

"You might make it, Arthur," Ginger admitted after the fourth try, "but it will be a lot safer if you let me set you down. It may not make much difference to you"—she had pretty well resigned herself to Goodell's completion of his plan—"but keeping the machine in one piece is still pretty important to the rest of us."

"And to me," the commander assured her. "I want the job finished as much as you do. You know that. My judgment may be off orbit now; I'd be the last to know about that; but what I'm doing is based on my considered opinion of what's best for the job, including the fact that I wouldn't be able to do useful thinking much longer."

"Moon wind!" Snapped Peter Martucci. "If your judgment is off, you have no business pulling this trick!"

"I have no business doing anything else. I have other reasons for working it this way. One of them I'm sure you can guess, some I'm just as sure you couldn't, but I don't have time to argue them all. I have work to do and not much time after I'm down."

"Then let me land you, Arthur," Ginger said quietly.

"Well—there's a problem with that—"

"You promised! We know you broke the one about not making unauthorized flights, but surely that's the only one—you wouldn't break another—"

"I didn't mean to; but there's a problem I didn't consider."

"What?"

"I unplugged the override before I climbed into this thing, in case someone caught on too soon and wanted to bring me back before the ship was committed. I'm still in the control niche, and no one else can fly it while my suit is here."

"Reconnect the override then."

"That's what I didn't think of. I can't reach the jack. I can't move around enough to reach it. I'll have to take her down myself. Ride as close as you can, and say anything you think may be useful, Lieutenant Xalco, but I'll have to do the real flying."

There was silence for perhaps a half a minute. Goodell was

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swinging away from the crater to set up a landing path. Ginger Xalco was, briefly, wondering if she could persuade him to wait until Belvew was back at the station and could do the talking. This was only for a moment; then she realized that the chemist wouldn't—couldn't—waste any time. There were the others, of course; everyone but Martucci was an experienced pilot. But after Belvew she was the best and knew it. Responsibility can sometimes be disconnected from authority, but never from ability.

"Don't land across the lake," she said carefully. "It has the usual cumulus cloud above it, and you'll hit turbulence just before you're touching down. I suppose you want to stop near the patch."

"Right."

"Then come on in—oh, seventy-five. Drop to five hundred meters by pressure, shift to rocket, and slow down to wing stall plus twenty by the time you're five kilometers out."

"Why five?"

"Don't you ask questions either. I'm allowing for corrections when you overcontrol, if you must know. If you even think you're starting to stall, feed full thrust, wait a second, and nose up two degrees; that will pull you out of trouble, and we can always make another pass."

Goodell remained silent this time. If he wondered how many landing passes he really had time and mass for, no one knew it. A minute later he was on line and altitude, and settling down to speed.

And feeling every signal of his waldo suit as agony.

There was no way to turn the impulses off; such a need had never been imagined. He did have ointments for dulling his skin sensitivity, but they were back at the station and even if they had been on the jet there was no way to apply them through the suit. He should have been able to concentrate so thoroughly on the landing that the pain couldn't get his attention, but it wasn't working out that way. If he wrecked the jet—if he killed himself or hurt himself too badly to let him do what still had to be done—

"Airspeed and pitch, you idiot!" They were his own mental commands, of course. The ones Belvew had provided earlier.

"Nose down just a hair." That was Ginger. He tried to obey, but the hair would have suited an elephant's tail. The woman's tone didn't change; she wasn't snapping now. "Back up a little. That's better. A little high now, but take it out in power drop—down to five sixty." Thrust lessened, speed decreased. He didn't want to look at the indicator, but he had to.

Two meters per second above wing stall. There'd better be no turbulence.

"Good. Hold that. Altitude fifty. Fifty seconds to touch. Don't change a thing. Forty meters, forty seconds. The ground is level. No complications. Twenty meters. Ten. Five to go—hold your attitude—don't touch anything—CUT THRUST!"

The pilot felt the keels touch, surprisingly gently.

"Let it slide!"

For the first time he felt free to look at the Aitoff, and immediately forgot his pain.

The lake was behind him and to his left, the chosen patch almost at his left wing as *Crius* came to a halt. The crater rim was over three kilometers ahead; there would be plenty of space for whoever would do the takeoff. There was nothing left to do but the job.

He dropped two lab units between the keels, thought a moment, then the remaining two. There were some seismic

cans on board, according to the indicators, and he released two of these. He didn't know where he was with respect to any of the seismic lines, but someone could check that later.

"If someone can get a factory pod down here pronto, I might last long enough to check its first root or two," he called. "Just don't drop it in the lake. I don't know its bottom contours, and don't want to take a chance wading. I'm getting out now, and am taking one of the lab units over to the patch. Don't take off, Ginger or whoever will be doing it, until I get the instruments out from underneath. I won't waste any time."

He opened the canopy, which groaned slightly with the effort until its seal cracked and the outer air rushed in to match pressures, and slid out easily. In spite of the pain of contact, he had never moved his quarters to the axis of the station, preferring to maintain some sort of muscle tone even at the cost of being pressed against floors and beds. He was therefore able to move easily enough in the thirteen percent gravity, though not with the ease that Belvew and Inger and Xalco had shown. He was, he reminded himself, a good deal older than any of them.

There was plenty of room for his suited form between the keel, and he quickly retrieved the equipment and carried it to the patch fifty meters away.

"I'd get a bit further," Ginger said soberly as he stopped. "I don't know the surface friction—you stopped pretty quickly—and I don't want to use full thrust."

Goodell didn't argue, but moved another hundred meters past the tar patch carrying the instruments.

"All right," he said. "This should be plenty."

"If you can risk it, I can."

"Risk it. The plane's what's important now."

He watched and listened as the exhaust thundered in the heavy air. *Crius* trembled, then slid forward. She reached lift speed in three hundred meters. Her keels cleared the ground by millimeters, then by a meter, and Ginger nosed her abruptly upward. The exhaust roar died out in distance as the wings flattened.

Goodell got to work, wondering vaguely why he didn't feel more lonely. His feet and joints hurt, of course; that was where there was most pressure from his armor, but that was just physical. He had expected that these last few hours would be somehow more emotional, but he found himself approaching the work as calmly as—as—he couldn't think of an analogy. As calmly as he'd ever approached anything.

He set the apparatus down for a moment, walked over to the tar patch, and inspected it closely. The view was better than he had had of the others on his screens in the station, but he could see no significant difference: the surface was smooth, glossy black, reflecting the orange sky where the sun's location could just be guessed at. Saturn was of course invisible; Goodell had no idea whether or not it was above the horizon—yes, he did; he knew his longitude, he suddenly recalled. It wasn't.

He touched the glossy surface gently with his armored hand. Pre-life? He'd never really know. It wasn't sticky, in spite of Ginger's experience. He pressed as hard as his weight would allow, and it seemed in no hurry to yield, either—well, it had taken a while even for a pair of jet keels to sink in significantly when Gene had landed.

Human senses gave little information. He fetched the analyzer and set it on the black surface.

Reading the results would be something of a nuisance, since the device transmitted to his own receiving/computing center in the station, and took its orders from the same place. Goodell spoke aloud.

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"Pete, you know my system. Get it running, and have this unit scrape up a sample and look for carbon-carbon double bonds, will you? I had Status switch my general board to you while I was coming down."

"Sure. Some special reason?"

"Yes. I think I messed up with my original analysis. I found three C-H bonds, a C-O and an O-H, and assumed methanol. Now I doubt it. There could be two carbons there, and if there are—"

"If there are, you have an impossible structure," the answer came flatly.

"I'm not sure, at this temperature. The point is I'll have a high, or fairly high, energy molecule with a really low activation energy for collapsing to something else. That would be the best situation for pre-bio that anyone's found yet. If it turns out to be true, you check other Collos Patches here and there and make sure whether it's general, and then watch what happens to this one when my enzymes get to work. If anything does, KEEP IT CONFINED and watch it come alive—if anyone can decide where the fence between pre-bio and alive is. I think we really have something here—or will if you find that double bond."

As he spoke, the lab unit had extended its scraper and managed to free a sample, with no more obvious trouble than had been experienced earlier near Lake Carver, and ingested it. Goodell could visualize the miniature NMR and gamma diffraction devices going to work; he could visualize the patterns they were providing for the computer far above—but he shouldn't do that. He should wait for the data, not predict them.

He wanted to hold his breath, but things already hurt enough. It was more than three minutes before the answer came down.

"The bonds are there." The pain disappeared.

"Then it's—well, unless you can think of something else, it's—"

"Yeah. Vinyl alcohol, not methanol. Do you want me to figure energies for its breakdown to water and acetylene, or can you think of other likely reactions, or don't you care if your enzymes boil the patch off the planet?"

"Think of any you want. I won't care, and it's time for the rest of you to start the thinking anyway. That's all I really wanted to know; my job's done. Don't hurry with the factory." Goodell looked thoughtfully and silently at the tarry surface for a moment. His friends were equally silent. Then he spoke again. "Well, not quite done."

Maria gave a choked, "No—"

"I have hours yet on my suit. I'll take a lab unit to the other pool, over by the rim, and we'll test that too; it won't be much of a walk, and I haven't walked for a long, long time. It might be fun."

Ginger spoke firmly. "I'll have full tanks in a few more minutes. I'm going to bring the plane down, and you're getting back aboard. You've been right again, and we need you to go on being right. This is really a jump; maybe we can get something critical back to Earth while we're—"

"While You're still alive. I've been right too often for your health, and I'm looking forward to not hurting anymore. Subjective and selfish, but that's the way it is. Start a systematic analysis of the patch, Peter. We need to know everything that's in the gel. It's a pity Gene had to blow the earlier unit away; we might have finished this part of it by now. I'm taking one of these for a walk."

A trifle over three kilometers is not much of a walk under

Titanian gravity, even for a disease-wasted and pain-racked human body. Two or three times, as his skin seemed to catch fire in another spot, Goodell considered turning back and performing his final experiment, but each time curiosity maintained its grip on his attention and drove him on.

Even when *Crius* roared overhead once more and settled back to the surface near the lake he merely pursed his lips in annoyance and continued his hike, with no words of irritation or anything else. If they chose to leave the jet on the ground until he was finished, there was nothing he could do about it. Since the craft was under remote control, with no one else down even back at the factory, there was nothing they could do about him either.

He reached the larger tar patch and had the unit put through its paces. While he waited for answers, the pain came back, but was somehow not as bad. He could wonder—was there a range of odd materials in the patches scattered over the big satellite? Or were they all the same? If they were the same, was it because probable—nearly inevitable, it would have to be—reactions had built them? Or was there transfer of material over Titan's surface in ways no one had yet figured out? Could any of this stuff *evaporate*? Surely not in significant amounts at this temperature.

Was subsurface transport possible? More would have to be done to keep proper track of factory roots, when the new ones were planted.

Those few minutes while he waited for the next set of results raised thoughts that came closer than had any of his friend's arguments to making Goodell change his plans and persuading him to climb back aboard *Crius*. There was still so much to do!

But the places where he was pressed, however lightly, by his suit made their counterarguments. Yes, there was a lot to do, but he simply wouldn't be able to do it. He took the report that here, too, the liquid part of the gel was probably vinyl alcohol—probably; don't jump to conclusions, you old idiot; once is more than enough—as a fitting summary of what he'd done so far, and started back toward the lake.

*Crius* was still there, of course; he would have heard its departure if anyone had decided to take it off. He looked it over carefully—there was no real hurry about the final experiment—and noted that there was no frozen hydrocarbon on the wings. He should have checked that earlier; it would have been more likely on his own landing. Had he been merely lucky, or had Ginger's talk-down been designed to keep a little extra speed? No, he had been frighteningly close to wing-stall those last few seconds, he recalled.

Your mind is wandering, old fellow. Your doing the right thing. Do it NOW.

He took the seismic cans and drove them firmly into the surface, one midway between lake and tar patch and the other a quarter of the way around the lake to the north. He wished he had thought to bring at least one of them over to the crater wall, and briefly wondered about doing so now—did he have enough time in the suit for such a trip? Probably not.

One lab unit he set down a meter from the edge of the lake, another just in the liquid, positioning both carefully. He watched for a minute or two to make sure that the later wouldn't roll—there was no way of telling the slope of the lake bottom, since the liquid was not very clear. He pointed the latter fact out to Peter. The remaining lab units he set down on areas which had been scorched, or seared, or melted, or whatever had been done to them by the rocket exhausts of his own landing and Ginger's subsequent takeoff. This didn't

## Settlement

matter very much, since the devices were mobile anyway, but it would be nice to see—for them to see—what chemical effects there might be from brief warming of the ninety-K surface. Maybe the earlier landings had already caused contamination—no. Don't think of that.

And now there was only one thing left to do. No, two. He gave the order releasing the detailed crater information to Status. Then he took one more look around the crater, clearly enough visible in the faint sunlight filtering through the smog. He looked at the lake, the parked aircraft, noted happily that he felt neither pain nor temptation for the moment, and walked out on the patch.

"Arthur—" came a faint, unamused female voice.

"Be sure you feed all the readings from here to Status," he answered. "Here's where I'm betting the changes will be."

He turned off his suit heaters—I remembered this time, he approved himself—and waited a few minutes. The suit insulation is really good, he reflected.

Then the cold began to creep in. It was not at all painful. He should have tried this before; he couldn't feel much of

anything, for the first time in years.

But he couldn't enjoy it for long. His personal enzymes would need access to the tar, or vice versa, and if he waited too long he wouldn't be able to move. His hand went to his face plate release as he knelt down and leaned forward.

But nothing happened to the plate. The outside pressure was far higher, and it wouldn't open. It was held against its gasket by Titanian air. He gasped in surprise, and for a few seconds actually worried. Was this all wasted? Would he just lie here, accomplishing nothing, while the tar surrounded him without being able to get at him?

He was nearly prone now. The pain was coming back, where gravity pressed him against the front of his suit. Was even the release of the cold being lost?

"Arthur. Emergency oxygen." The woman's voice was still unsteady, and she was clearly neither arguing nor amused.

"Thanks," he muttered. He groped for, found, and opened the cock of the spare tank, and fell silent again while the oxygen spread through his suit, raising the inside pressure.

Everyone in the station heard the face plate pop open.



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## CATCH THE SUN

by

Barry B. Longyear

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Synya squatted in the snow, her thorny back toward Kadnu's dying light, as the last of the far vine-masters joined the circle. She glanced at the two vine-masters to her right, then looked up above the ring of gray-manned heads for the light among Kadnu's Sparks that would grow bright, bringing the future of the vine people.

She tossed her mane and swiped at the snow with a clawed hand, sending a spray of crystals into the air. She looked at the soft whiteness in front of her, then dug the claws of her hands into her haunches. *Better that the ice should claim us than the future.*

"Synya." Nothing but a click and a hiss, but to the vine people it was a name. "Synya, we are all present."

Synya looked up and stared with unblinking eyes at the speaker. "I see, Morah. Kadnu has not blinded me despite my many growths."

The one called Morah squatted silently for a long moment, then held out his long muscular arms. "Why are we here, Synya?"

Gray manes nodded. Another vine-master, a long leap to Synya's left, turned his head. "It has taken me three growths of fast travel to meet here at your call. The people of my vine will not see me for more than another three growths if I should leave at this moment." He clawed at the snow. "Look at this, Synya. I must move with Kadnu for a growth before turning toward my vine if I am to avoid the ice. Why are we here?"

Synya looked again at the two vine-masters to her right. Shadig, the closest to her, shook his mane and cast down his glance. The next vine-master, Neest, folded her arms across her breast and studied the snow. "You are the oldest, Synya. It is your place."

Synya looked around the circle of squatting bodies, then looked up again for the spark that would grow bright.

*How to tell them that God is but a ball of furning air, that Kadnu's Sparks are but more such balls—many much larger? How to tell them that the Endless Trail is not endless, but is nothing but a futile trek around a great ball? That we will never find the Lost Ones? That there is no God?*

She brought her glance down to the ring of faces. "We must wait here. There will be a visitor." Visitor. Synya shook her head. *I use the word for Kadnu's Sparks that streak the sky because we have no word else to name them. She again dug her claws into her haunches. But the streaks are but stones that burn in our air. And they... they are not stones.*

Morah snorted and shook his head. "Synya, no one reveres Kadnu's visitors more than I, but is this why we are called? Can we not watch the visitor from the snowfields at the backs of our own vines?"

Synya took a deep breath and snorted steam from her nostrils. She closed her eyes. "The visitor, Morah, is not from Kadnu. The visitor will only be seen here."

Morah opened his fanged mouth in surprise. "Have you—has your sign-reader seen a vision? Do the Lost Ones—"

"Silence!" Synya turned toward Shadig and held out her left arm toward Morah. "You speak now, Shadig! Tell them of the

visitor not from Kadnu!"

Shadig glanced at Synya, then returned his gaze toward the snow. "Morah, the sign-readers did not see this . . . this visitor, nor its purpose. I, Synya, and Neest met here long ago to plot the rooting of our respective vines. It was then that we saw the . . . visitor." Shadig covered his eyes and mouth; still all heard him whimper.

Morah stood erect. "Say this, Shadig! What do you struggle to keep from us?"

Shadig only shook his head. Synya looked at Neest, but the vine-master's gaze was frozen to the snow. Synya turned toward Morah. "The visitor told us to gather all of the vine-masters here to meet twenty-seven growths from the visitor's departure. This is the end of the twenty-seventh growth."

Morah expelled the air from his mouth and wrinkled his upper lip into a sneer. "Pah! And how would this visitor know where the vines would be within twenty-seven growths? We do not even know this for five growths. To plot that far toward Kadnu would anger God and death-burn those foolish enough to approach so close. Tell us, Synya, how would this visitor know?"

Synya nodded slowly. "The visitor knows."

Those lights, those slivers of metal, those pale traces on shiny sheets of warm ice . . . the thing that took the three of us away from the ground to show us the Endless Trail to be a ball floating in nothing . . . "Morah, the visitor knows. I cannot explain how because I do not know the method. I do know we must wait."

Morah looked around the circle of vine-masters. "I have come a long way. For that reason I shall wait." He looked at Synya. "For a while." He held out his hands. "But I shall not wait squatting in the snow. I go to my hut!" He turned and left the circle. One by one the others stood and moved toward their vine-bark huts until only Synya, Shadig, and Neest remained.

Shadig turned toward Synya. "Why did you not tell them?"

Synya tensed her arm muscles, restraining them from bringing her clawed hand across Shadig's mouth. "You were there too, Shadig! You could have told them!"

Shadig hissed, moving into a half-crouch. "It is you who should have told them! You are the oldest!"

Neest stood erect. "We all saw the same things and none of us told of the things we saw and for the same reason." She turned and looked toward Kadnu's fading light. "They would have done what we would have done in their places. They would have taken us for mad." She looked down at Shadig and Synya. "Or blasphemers."

Neest turned and walked toward her hut. Shadig stood, turned, then left Synya alone in the snow.

Synya looked at Kadnu's Sparks. If you were but sparks—Two visitors in rapid succession left brief streaks across the sky. Synya looked down at the snow. Stones burning in air.

She stood, turned, and moved toward her hut.

# Absolute Magnitude MSFA

The ice wind carried the roar of the visitor to Synya's ears. She could hear the shouts of the other vine-masters and the soft padding of their running feet through the snow. She did not move, but instead kept her gaze fixed on the deep pink of Kadnu's glow as the pale light entered the open end of her hut. The roar of the visitor was a familiar one. The light at the open end of her hut was blocked by a dark, hulking figure. It was Morah.

*"The visitor has come, Synya!"*

She lowered her head. *"It is as we told you."*

*"Then, come! It is you who called us. Do you not wish to hear the visitor's message?"*

Synya looked up at the darkness of the figure blocking her doorway. *"I have heard the visitor's message, Morah. Now it is your turn."*

Morah paused for a moment, then turned and ran toward the sounds of the other vine-masters. Synya picked at her clawed toes for a few moments, then crawled from her hut. She stood and turned in the direction of the chattering to see the vine-masters standing a respectful distance away from the visitor. It was a blue-and-white-colored container supported by five telescoped legs. It was at least a growth long—much longer than the earlier visitor—and its top and side bristled with points, lumps, and whirling things in clear bubbles. From beneath it came bright white lighting and great billows of steam.

Synya felt a clawed hand on her left arm, and she turned to see Shadig looking into her eyes. *"These growths, Synya. All these growths! I prayed that the thing we saw was a dream; that the visitor would not return. I... prayed! To Kadnu, I begged!"*

Synya pulled her arm free and snorted. *"You would pray to a ball of burning air?"* She cocked her head toward the circle of vine-masters gathered around the strange craft. *"Come, Shadig. Let us meet our future."*

When they joined the circle, Synya saw that Neest was already there, squatting in the snow while the others stood. Neest glanced at her and Shadig, then she returned her gaze to the craft.

Out of the steam walked four beings talking the strange yodel of the things called "humans". Their skins were green, with black fur around their faces; but they were different from the other ones. The tall muscular one beat his hands against his arms. *"By the beard of the Prophet, Miklynn, your big mouth's gotten us stuck in some pits before—"*

*"How would you like to pick your teeth out of those pits, Assir?"* The speaker was not as tall as the other, but he was fat and talked with authority. Following them were two others, both slender, one a head taller than the other. The fat one motioned behind and the short, slender one moved up to his side.

*"What is it Red?"*

The fat one pointed at the circle of vine-masters. *"Tell these creepy-looking things we're ready."* The fat one looked around, pulled a smoking stick from his mouth, then frowned at the short, slender one. *"Dean, where in the hell are the others? We're supposed to pull the whole damned population off this rock. There can't be but thirty or so here."*

The slender one looked at the circle of vine-masters, then he spoke in the sounds and words of the vine people. *"Are the ones named Synya, Shadig, and Neest among you?"*

Synya stepped through the circle and stopped a short leap before the speaker. Shadig and Neest joined her. *"I am Synya."* She moved her clawed hand from her breast, then

indicated her two companions. *"Shadig, Neest."*

*"I am called Dean."* Dean pointed at the fat one. *"This one is our master and he is called Red Miklynn."*

A growl of anger erupted from the circle. The fat one slapped Dean on the arm and shouted at him. *"What in the hell did you say?"* He pulled the smoking stick from his mouth and threw it down to the snow. *"Damnit! I know I should've pulled Jerzi out of that funny farm. Helluva communications man you make, Dean—"*

The one called Dean wrinkled his face and bared his small teeth. *"Look, fatty, I told you to—"*

Synya stepped forward. *"Dean."*

*"Dean, you called this other 'Red'."* Synya pointed at the dying glow of Kadnu. *"This is one of the names of our God. It is one of his many colors."*

Dean nodded, then pointed at the fat one. *"This one needs only to be called 'Miklynn'. I mean no disrespect."*

The vine-masters nodded, then the fat one poked Dean in the arm. *"Well? Where's the rest of them?"*

Dean turned back to Synya. *"We were told by the others who came before us that all of the vine people would be ready by the twenty-seventh growth. Where are they?"*

Synya held out both of her arms indicating the others of her kind surrounding the four humans. *"We are all that can come. These are the masters of their respective vines."*

Dean frowned. *"The vine people do not know?"*

*"We could not tell them. They would not believe."*

Dean looked around the circle of vine-masters, then brought his gaze to a halt on Synya. *"What about the other vine-masters?"*

Synya shook her gray mane. *"None of them have been told. You must show them."*

Dean turned toward the fat one called Miklynn. *"Red, we got troubles."*

Miklynn grimaced and nodded. *"It figures. It's not bad enough to get stuck with a farming job. We have to do one on Gaum's troubleshooting and follow ups."*

The one called Assir snorted. *"Miklynn, if you'd keep your big mouth shut, Gaum would be farming and we'd be troubleshooting."*

Milnyh held up his hand. *"All right! You've worked your jaw enough for one day, Assir. Unless you want it wired shut, button it up!"* He turned toward Dean. *"What's the trouble?"*

*"Red, these are just the vine-masters. The people haven't been told. In fact, neither have the vine-masters. This one,"* he pointed toward Synya, *"says that you'll have to take the other vine-masters up and show them. Otherwise they won't believe."*

Miklynn raised an eyebrow, then looked around the circle. *"A joy ride."* He looked back at Dean. *"I count around thirty. Where are the rest of the vine-masters?"*

Dean looked around the circle, then faced Synya. *"I see only half of the vine-masters. We know there to be over sixty vines—"*

Snorts and hisses greeted Dean's remarks until Synya held up her hands for quiet. When all was silent, except the wind, Synya looked at Dean. *"These are all the vine-masters."*

Dean looked at the fat one. *"Red, she says this is it; there ain't no more."*

Milnyh rubbed his chin, then kicked snow from his right boot. *"Do these characters follow the sun or the ice?"*

Dean looked around the circle. *"How many of you follow Kadnu?"*

Shadig snorted. *"All of us follow Kadnu. If we did not the*

## Catch The Sun

*ice would destroy us.*" Shadig scooped up a handful of snow and flung it into the air to punctuate his observation.

Dean turned toward Milynn. "Red, these guys are only the vine-masters from this side of the habitable belt. There's no one from the opposite side of the ring."

Milynn nodded. "Gaum must've spent all of ten minutes troubleshooting this rock."

Dean shrugged. "Should I ask them why the other vine-masters aren't here?"

The fat one looked around the circle, then turned toward the tall slender one standing behind him. "Parks, do you think that these people even know about the population of the other side of this planet?"

The one called Parks moved up and stood between Dean and the fat one. He looked at Dean. "Ask them . . . ask them if they have a legend about . . . about a missing population."

Dean turned toward Synya. "Does your belief in Kadnu suggest . . . does it include a missing people?"

Synya's head snapped back as though it had been slapped. "The Lost Ones. Dean, do you speak of the Lost Ones?" Dean turned and nodded at Parks, then turned back to Synya.

"Synya, where are the Lost Ones?"

Synya held a clawed hand toward Kadnu's light. "We know not, Dean. Kadnu will lead us to them."

Dean turned toward Milynn and raised his eyebrows. "Red, they don't even know about the others. A search for the 'Lost Ones' is part of their belief."

Milynn stomped around in a small circle for a few seconds, then stopped and poked Assir's chest with a gloved forefinger. "You take this mot up for the joy ride and put enough distance between you and that sun so they can tell it's just like any other star."

Assir heaved a sigh. "Red, that will take days—"

"But before you take off for the long ride, you hop on up to the base ship, grab another communications man, then pick up a few of those Lost Ones. Got me?"

Assir nodded. "Yeah—"

"And while you're at the base ship, send down enough rock-hound teams in landers to recheck Gaum's data—ice-side and hot-side both."

"What?"

The fat one placed his fists on his hips. "If that idiot Gaum can miss half a planet's population, would you trust his seismic data? Before I plant eight hundred thrusters on this rock, I want to make certain we won't tear it apart." The fat one glowered at the one called Assir. "Move it!"

Assir shrugged, then turned toward the craft. Lifting his right hand, he waved the vine-masters to follow him. Dean looked around at the circle. "You are to follow him into the craft. You will not be harmed."

Synya noticed that all of the vine-masters were looking at her. "The visitor has something to show you . . . something you must know. Shadig, Neest, and I have already seen it."

Morah looked at the snow for a second, then turned and faced Synya. "If this is a good thing we shall see, are you not coming with us?"

Synya shook her mane. "The goodness of the thing is not for me to judge. I have seen it once, and that is enough." The vine-masters continued to look at Synya. "I am your senior, and I tell you to go! This is what you have traveled so far to see. You must see this!"

Shadig looked toward the craft, then looked at Synya. "We will go. For me . . . I must see it again. I . . ." He turned and began moving toward the craft. Neest watched Shadig,

then looked at Synya and nodded. Neest turned toward the craft and one by one the remaining vine-masters followed.

The one called Dean looked at Synya standing alone in the snow. "Will you go with them?"

"Pah!" Synya's long arms swiped at the icy air. "My eyes have spoken once to me. I listened then!"

Milynn walked up to Synya and studied her, as she studied them. She had height and strength, but the fat one brought the terrible future. He turned to the one called Dean. "What's the chatter about?"

Dean shrugged. "She's seen the Terraform Corps' act before. She doesn't want a rerun."

The fat one looked back at Synya. "Ask her where she will go now."

"Synya, where do you go?"

Synya turned toward Kadnu's light and held out a clawed hand. "I go to tend my vine." She lowered her hand and looked from Milynn to Dean, then to the remaining human. "What is this one called?"

Dean looked at the tall slender one, then turned back to Synya. "He is called Parks. He is our . . ." The one called Dean seemed to search for his words, "Parks advises us . . . on matters . . ." Dean looked at Parks. "Parks, I don't have any way to describe a social structural engineer with the vocabulary Gaum's communications man stuffed into the computer."

The one called Parks looked at Dean, then shook his head. "I don't speak the language."

"Give me some other description—some other words."

Parks scratched his chin with a gloved finger, then shrugged. "Beliefs, customs, historical trends, organization?"

Dean held up a hand toward Parks, then turned toward Synya. "The one called Parks advises us on matters of faith, tradition . . . ritual—"

Synya's gray mane came up sharply. "Parks, then, is your sign-reader?"

Dean shook his head and turned to Parks. "She doesn't understand. She thinks you're a 'sign-reader.' That's their name for witch doctor, seer, priest, or whatever."

The one called Parks appeared to laugh within himself. But his eyes held none of this laughter. "That's close enough, Dean." He turned his glance to the one called Dean. "I used to be a chaplain. Go ahead. Tell her that I am a sign-reader."

Dean frowned and looked at the fat one. Milynn waved an impatient hand. "I don't give a damn."

Dean pursed his lips, then addressed Synya. "The one called Parks is our sign-reader."

Dean turned toward Parks. "You've passed inspection—" Synya leaped backwards as a beeping noise came from the fat one's belly. The fat one pulled a dark object from his belly and spoke to it. "What?"

"Milynn, we're ready. Are you clowns coming?" Synya recognized the distorted voice of the one called Assir.

The fat one thumbed the object. "Keep your turban on." He turned toward Dean. "Is your little chit-chat over?"

Parks shook his head. "Wait, Red."

"Wait for what?"

Parks rubbed his chin, looked at Synya, then back at the fat one. "Look, Gaum has screwed up everything else. We ought to check his data on social structures."

The fat one appeared angry. "Parks, I don't give a damn if they know which fork to use—or even if they know what a damned fork is. All I want to do is get this job over and done with as fast as possible."

# Absolute Magnitude MSFA

Parks walked over and poked the fat one in the chest. "Well, Red, what if they don't want to leave? What if, instead of calmly boarding the landers, they decide to stay? For all we know from the job that Gaum did, these people could be planning to wage war on us."

The fat one looked down at the finger stabbing at his chest. "You want to keep that finger?" The stabbing stopped and Parks folded his arms across his chest. Milynn turned toward Synya, glanced at Dean, then spoke at the object in his hand. "Assir, dump out three K-packs and let us get clear before you take off. We'll be here on the skin for a while." The object clicked and the fat one replaced it on the strap around his belly. As the one called Parks ran toward the craft to pick up the packs, the fat one looked at Dean and pointed a finger at Synya. "Tell her we're coming along."

Dean faced Synya. "The fat one asks if we may go with you to see your people."

Synya looked from Dean to Miklynn. "Will the sign-reader called Parks come with you?"

"Yes. It was his request."

Synya looked back at Dean. "Then you may come. I would have your sign-reader observe what is, then consider what is to be."

Dean looked at Milynn. "She says it's okay." Dean pointed a thumb toward the craft. "Why the K-packs? Why not use a cart?"

The fat one pointed at Dean's feet. "See those?"

"What about them?"

"That's locomotion on this planet, dirtbrain. All we need is to come roaring up to her tribe in a cart to scare the living daylight out of them."

Dean fluttered his eyelashes and held his hand to one side. "Why, you old softie."

"Dean, how would you like me to rip off your lips?"

Parks ran up, distributed the packs, and while the humans put them on, Synya looked toward Kadnu's light. *Does being a ball of fire, does knowing what you are, make you not a god?* She looked down at the snow, knowing but refusing to recognize the answer.

"Let's move out." It was the voice of the fat one.

Synya looked at Dean. "We are ready, Synya."

She walked a few paces to a mound of snow, reached under it and lifted her hut. She shook the snow from it, rolled the vine bark and tied it with woven strands of softened fiber, then slung the roll across her back. She faced the three humans, then turned toward Kadnu and began walking.

Synya set a strong pace toward Kadnu, the three humans half-walking, half-running to keep up with her. Each time she looked over her shoulder, however, the fat one was only a short leap behind while Dean and Parks fell further back. Synya increased her pace to a comfortable run, then looked back again. Dean and Parks were left far behind, but the fat one remained but a short leap back, his face reddening, his stubby legs pumping against the thinning snow.

Synya frowned, then turned her face toward the light and ran as though the ice scavengers had picked up her scent. She maintained her speed until she felt the sting of the cold air in her lung. She slowed to a walk, then stopped and looked back. The fat one, streams of wetness on his face, stood a short leap behind her, sucking and blowing at the air. The others were lost over the horizon. "Wha . . ." The fat one gulped more air. "What's the . . . matter, you . . . creep? Can't run any . . . faster'n that?"

Synya frowned, then hissed and clicked at the human. "Your legs . . . not made for running. Mine are. Why . . . do you try and prove differently?"

The fat one pointed at the right side of his head. "I don't—speak the lingo." He pointed toward Kadnu. "If you are all . . . rested up, then let's get going."

Synya pointed at her own head and pointed away from the light. "Wait for Parks and Dean. Our tracks . . . covered soon by the wind."

The fat one nodded. "Parks . . . Dean." He pointed at the snow. "Wait for them?"

Synya nodded, then looked with surprise as the fat one fell as a stiff branch to the snow, apparently asleep. Synya, still breathing hard squatted next to the human. *I envy your ability to sleep, fat one. My sleeps have been too troubled. Synya looked away from the light to see two dark specks against the white of the snow. She studied them until she was certain they were not scavengers but the remaining two humans. She looked back at the fat one and jabbed his arm with her clawed fingers. He did not open his eyes. You must not sleep so soundly on the snow, fat one. You must be on guard against the cold and the ice scavengers.*

The human did not stir except for the heaving of his chest. Synya unslung her hut roll and busied herself putting up her shelter. When she was finished, she squatted in it and watched the human until his two companions arrived. Parks slung down his pack and rushed to the fat one's side while Dean squatted in front of the opening to Synya's hut. "Synya, what happened?"

"The fat one and I moved too fast for you and Parks. We decided to wait here for you." Synya looked down at the snow, then back at Dean. "Why could the fat one run with me when you and your sign-reader could not?"

Dean looked over his shoulder. "Parks, how's Red doing?"

Parks stood, picked up his pack and began opening his. "He's out cold. And I do mean o-u-t out. We better get him into a shelter."

Dean looked back at Synya. "The fat one has things to prove to himself that the sign-reader and I do not." Dean chuckled. "It's a good thing that you did not challenge the fat one to a fang-growing contest."

Synya's forehead wrinkled in confusion as she observed Dean's short flat teeth, then licked her tongue over her set of tearing teeth. "Surely the fat one would lose such a contest."

Dean stood and unslung his pack. "No, Synya. Miklynn would probably win, but it would be . . ." Dean frowned as he searched for an expression, then he shrugged. "It would not be good for his gums."

Synya watched as Dean and Parks erected a shelter of fabric, then pulled the fat one inside. She curled herself into a ball, her sensitive ears searching for threatening sounds, and began to doze. She licked again at her fangs, then tried to imagine the fat one with a similar set.

I must have not understood the one called Dean. She sighed. Words can be so mysterious.

Synya awakened with a start as her ears picked up noises her instincts said should not be there. Her ears altered direction until she identified the curious yodel of humans speaking. To be certain of their safety, she moved from her hut, walked around the two shelters, sniffed at the air, then returned to her hut. She again curled into a ball, letting the soothing human voices calm her.

"Red, you are about the stupidest sonofabitch I ever met."

## Catch The Sun

"Parks, you and me don't go back *that* far. How about I feed you a few knuckles?"

"You tell him, Dean."

"Yeah, Dean. You tell me."

"I'm not an authority, Red."

"What's that supposed to mean?"

"I don't know how many stupid sons of bitches Parks has met. I bet you're way up there, though."

"You little schoolboy snot, I ought—Parks, are you getting your jollies or something? You want to quit feeling up my leg?"

"Red, unless we get your circulation going, you can kiss these lovely little stems of yours good-bye."

"The joy juice'll do that."

"I'm just helping it along. Why don't you try and get some sleep?"

"Hah! Wouldn't you just like that? Get me while I'm asleep—"

"Dean. Hit him with another shot. I'm tired of listening to him."

"Dean, you squirt me with any more of that . . . stuff. You crummy . . . little . . . son of . . . a bitch . . ." The voice of the fat one died away.

"What's his temperature?" The voice of the one called Parks had concern in it.

"It's up. Stick the heat sheet over him and I think he'll be okay." Synya heard fabric being spread, then the voice of the one called Dean. "I'll stand first watch over him."

"Okay, Dean, lend me your language chip."

"Why?"

"If I'm going to be a sign-reader, I think it would help if I knew the language. It's all right; I'm adapted."

"Even so, you can't learn it just as few hours. It took me four straight days."

"I'll learn what I can, when I can . . ."

Synya dozed, her ears standing her own watch.

... *The one called Gaum had pointed at the view of the great ball, half-shrouded in darkness. Synya looked with horror at the thin bard between the light and the dark—a narrow thread of life in the midst of so much death by ice, death by fire. As the craft swung around the great ball, Synya saw the lopsided mound of ice, it extended toward Kadnu farther than any of the vines; but farther than that, extended a great body of water. At the edge of the water, where once again the soil could be seen, the water steamed. The one called Gaum had said that the ice, water, and hot desert were the things that had kept the vines and the vine people from crossing over to the world where one must flee Kadnu, instead of follow him. But the one called Gaum had never spoken about the Lost Ones...*

She brought her eyes open as her ears heard feet in the snow. Through the open end of her hut she saw the fat one standing, looking at Kadnu's light. He reached to his neck with his right hand, unsealed his green skin, then took something from within it and brought his hands around the stick. Smoke erupted from his hands, and when he brought his hands away, the end of the stick glowed. The fat one sucked on the stick, letting the wind from the ice carry the smoke toward Kadnu.

Synya crawled from her hut, walked over to Miklynn, then squatted beside him. She pointed a clawed finger at the thing in Miklynn's mouth. "Fat one, what is this for?"

Miklynn pulled the object from his mouth and looked at Synya. "So, you're finally up. Thought you'd sleep forever." She jabbed her finger at the smoking stick. The fat one looked at it. "This?" He held it out toward her. "Cigar. This is a cigar."

Synya frowned. "Che..che-gah. Che-gah?"

The fat one shrugged. "Close enough." He unsealed his skin, withdrew another stick, and held it out to her. "Want one?"

Synya frowned, then took the stick in her hands. It was soft—a roll of leaves. She held it to her nostrils and the bittersweet smell intrigued her. She placed one end into her mouth and pointed at the other. The fat one exposed his teeth in a smile, then brought a flame from his hand to the end of the stick. Synya sucked on the cigar as she had seen the fat one do, and delicious smoke filled her mouth. She opened her lips, letting the ice-wind carry away the smoke. She nodded her mane at the fat one.

"The burning leaves taste good."

The fat one nodded as if he understood, and resealed his skin. He puffed on his own stick of leaves; and Synya joined him puffing the delicious smoke and looking at Kadnu's light. "For crissake!" It was the voice of the one called Dean. "Parks, Red's teaching her how to smoke."

Synya looked over her shoulder to see Dean standing by the fabric shelter and the one called Parks emerging from it. Synya raised her clawed hand and delicately removed the cigar from her mouth. "Dean, there is concern in your words."

Parks stood, looked at the fat one's back, then shook is head. "Come on, Dean. Let's tear down the tent."

"But what about her health? What's one of Red's weeds going to do to her?"

Synya replaced the cigar between her thick lips and took another puff. Parks turned to the tent. "She seems to be handling it better than we do. Let's go with the tent." As Dean and Parks began repacking the shelter, Synya looked back toward Kadnu. She puffed again and watched the wind speed away the smoke. She turned her head toward the fat one and held out her cigar. "Che-gah."

The fat one puffed and nodded. "Put hair on your chest." He looked at Synya, observed the thick mat of hair on her chest, then shrugged and looked back toward Kadnu's light.

After a few moments, Dean and Parks walked up to them. They both wore their packs, and Dean carried the third. He held the pack toward the fat one. "Red, are you strong enough to carry this? Parks and I can switch off."

Synya saw the fat one's face grow angry as he turned and pulled the pack from Dean's hand. "After this job I'm going to throw you two smartmouths so deep in the stockade neither of you'll remember what sunlight is!"

As the fat one strapped on his pack, Synya turned toward Dean and removed the cigar from her mouth. "Is the fat one angry with you?"

Dean shook his head. "It is only his manner." Dean looked toward Kadnu's light, then looked at Synya, again puffing on her cigar. "Synya, this time could you walk a slower pace?"

"Did the fat one ask this?"

Dean glowered at the fat one for a moment, then returned his gaze to Synya. "No, it is for the sign-reader and I. We cannot keep up."

Synya nodded. "If it is for you and the sign-reader, I will walk more slowly."

Dean turned toward Miklynn. "Red, we're going to keep the pace down."

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The fat one's eyebrows rose. "Oh? Did Synya find our last little run too fast?"

Dean sighed and shook his head. "No. I asked her to slow it down."

The fat one nodded, smiled around his cigar, then turned and faced Kadnu's light. He patted Synya on the back, then pointed with his thumb toward Dean and Parks. "I guess we better hold it down. Those two are a little out of shape." Synya nodded and the pair began walking toward the light.

Dean turned toward Parks as the two began following. "Dammit, but Red makes me mad! Another run like that would kill him."

Parks hunched up his pack and kept putting one foot in front of the other. "Dean, just be grateful that the wind is at our backs."

"Why?"

"The cigars."

Dean nodded, hunched up his own pack, and followed in silence.

By the end of the walking, the bright edge of Kadnu peered over the horizon, casting long shadows from the regular mounds of soil covering the severed root-ends of Ashah, Synya's vine. During the walk, she had noted the larger mounds, and had told the human sign-reader their significance: with the root-ends were also buried the dead of her vine. She taught the sign-reader, through Dean, how to read the shapes of the mounds to identify the dead. They passed Nogda, the old sign-reader who had foretold the poor rooting of the fourth growth; and Synya's father, Garif, who had been slain by the ice scavengers; and others.

As Synya curled to sleep inside her shelter, she again listened to the humans talk. Dean and Parks were practicing to speak the language of the vine people. The human sign-reader had difficulty forming the words correctly, but he knew them. The fat one spoke the yodel of the humans.

"You two've been hissing and clicking at each other for hours. You want to knock it off so I can get some sleep?" The practicing stopped. Only silence came from the humans' shelter until, again, the fat one spoke. "Dean, you got that language chip on you?"

"What?" The one called Dean sounded astonished.

"Language chip, dirtbrain. You know what a language chip is—"

"Yeah, Red. I thought you said your skull was already too full of grunts and groans. Why the chip?"

"If I want you to know, I'll tell you. Maybe the next time I offer the lady a cigar, I'll want to do so as a gentleman."

"I don't think the chip has a word for cigar, except weed that croaks—"

"Just hand me the chip, Dean. And if I want any wise-ass remarks out of you, I'll stomp on your head'n squirt 'em out your ears."

Synya heard movement inside the shelter. Then silence again. It was broken by Dean's voice. "Parks, what do you suppose he wants to talk to Synya for?"

"Maybe he's in love. Red's a haunch and claw man, you know."

Dean laughed. "Think you'll be best man?"

"No. Parks chuckled. "This love is destined to fail. She's too good for him."

Synya listened to the yodeling sounds, then drifted off to sleep, her ears standing guard.

The next three walks brought Kadnu into full view, the only remaining snow, mere patches hiding in the mound shadows. As they stopped to rest at the end of the walk, Dean and Parks set to the job of erecting their shelter while clouds crossed Kadnu's face, bringing with them a light rain. Synya completed her shelter, then walked to where the fat one was squatting on the bare soil. She could see where he had scooped up a handful of the soil. The fat one was letting the soil trickle through his bare fingers as he studied the horizon. Synya squatted next to Miklynn.

"Upon what are you thinking, fat one?"

Miklynn frowned at Synya. "I am called Miklynn." He spoke the language of the vine people well. "Do not call me fat one."

Synya sat back on her haunches and studied him. The description bothered him. Why was it that that concerned only him. "Miklynn."

"Yes."

"Why do you feel the soil?"

The fat one pointed from left to right at the horizon. "Look, Synya. How flat it is. There are no . . . mountains . . . large mounds as there are on many other worlds. The soil is rich and fine-grained." He held out a small, flat object. "This is the largest stone I have found. The visitor Gaum explained farming to you?"

Synya nodded her mane. "The planting, the harvesting, and much more." She looked down at the soil and clawed at it.

"Synya, after we have done our work, this world will farm. This soil can grow things almost from pole to pole. Do you understand?"

Synya sighed. "Gaum explained these things. He showed us with his magic ice pictures."

Miklynn studied the horizon, then scooped up another handful of soil. "Synya, just think of the farm this world would be."

Synya looked at the handful of soil she had clawed from the surface. "I have thought upon it, Miklynn. For many growths, I have thought of little else."

Miklynn stood, his glance still surveying the horizon. "Synya, do not misunderstand me. This is not my kind of work. But, still, there is something to be accomplished here. This world will produce food—many kinds of food—for many kinds of worlds."

With a claw extended from her left hand, she pushed about the small mound of soil she held. "This is why you come to do this to us?"

The fat one looked down upon her, the space above and between his eyes wrinkled. "Do to you?"

"Your people will arrive at some gain by changing my world?"

The fat one moved his shoulders. "Yes. But so will the vine people. That is why the . . . big shots, the Quadrant... why others have committed great . . ." The fat one shook his head. "You don't have the word for wealth, the big credit." He rubbed his chin. "That is why others have committed a lot to this work. Both your people and mine will arrive at gains." The fat one nodded his head. "As I said, it is not my kind of work, but just think of what this world can be."

Synya knocked the soil from her claws, then stood. "I have thought on it Miklynn." She looked at Kadnu, hanging low above the horizon. Kadnu would not be followed, for he would travel too fast—no, the . . . ball would spin too fast. It would melt the ice, warm the cold, and cool the hot. There would be no need to follow Kadnu. The vine people could stop their

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endless walk.

Synya shook her mane. "I . . . I have thought on it, Miklynn. I am grateful that my death will come first." She turned and went to her shelter. Miklynn studied her back until she disappeared inside.

Synya listened to the soothing yodel of the humans as she curled and tried to sleep. Thoughts of Kadnu flying across the sky too fast for her to chase were thoughts she drove from her mind by concentrating on the human talk coming from their shelter.

"Dean?"

"Yeah, Red?"

"Who was the commo main with Gaum?"

"Keffer. Sheena Keffer. I don't know her. Why?"

The fat one was silent for a while. "I talked to Synya about increasing the rotation on this planet, about how it could be farmed . . . she didn't exactly jump for joy. You think this Keffer screwed up?"

"Screwed up how?"

The fat one paused. "She as much as told me she'd rather be dead than see it."

"Keffer's job was to get the words, meanings, grammar, and contexts down. She's done all that right as far as I can see."

"Why didn't the original three vine-masters tell their people? Gaum's group must have scared the hell out of them."

Parks laughed. "No, Red. Look at it from Synya's point of view. The universe is a long road extending to infinity. The road is lighted by Kadnu, their god. Kadnu leads them along the road and draws their life-sustaining vines along with them. He gives them water, warms them, and is always there. Synya's god has never failed her or her people."

Dean snorted. "Which is more than you can say for most of the gods we've come across."

"So what, Parks? The Corps has shown Synya the truth about her road, but it showed her how we will turn this rock into a garden."

"A garden." The one called Parks was silent a long time. When he again talked there was a strangeness in his voice.

"Red, when Gaum took Synya and her two buddies on the grand tour, they weren't just shown that Santa Claus and the Easter Bunny are myths. They didn't only have their concept of Kadnu the god blown up in their faces—they had everything that they *know to be true* turned over, shook up, and flung out into space. Their universe has been destroyed, Red, and you wonder why a couple of plows and a manure spreader don't seem to compensate them for it."

The fat one laughed "Careful, Parks. Keep it up and the Corps will have you back in your chaplain's collar."

"Why don't you just shut the hell up?"

The fat one was silent for a moment. "Dean, what put a wild hair up Parks?"

"Shut up, Red. We can all use some sleep."

Silence came from the humans' shelter. After a long while, the fat one emerged from the entrance shouldering his pack. He stood looking at Kadnu for a moment, then began walking toward the light. Synya watched Miklynn march toward the light until she dozed. There would be no danger from the scavengers this close to Kadnu. The fat one would be safe.

At the end of the resting period the one called Miklynn had not returned. Synya and the two humans packed the shelters and continued toward the light without him. They walked in silence, reaching the short brown grasses, Kadnu growing ever higher above the horizon. The one called Dean yodeled the

human speech at Parks, then Synya spoke. "We all speak the language of the vine people. Do you hide things from me?"

Parks shook his head. "Dean was asking me about Miklynn; if we should be concerned."

Synya looked at the one called Dean and saw no lie in his manner. "Parks, then should you be concerned?"

"No. Miklynn does as he wants when he wants."

Synya nodded. "Then he has no fear."

Parks studied the ground as he walked. He glanced up at Kadnu, then returned his gaze to the ground. "We all have fears, Synya. Even Miklynn. Even you. Is this not true?"

Synya and the others walked in silence. As they approached the place where green blades appeared among the brown grass, she turned toward Parks.

"You asked about my fears, sign-reader. All my fears have been brought by the humans. Before the one called Gaum came, one only needed to follow Kadnu and serve Ashah, our vine, as it followed Kadnu."

Parks frowned. "You do not fear your god?"

"Pah!" Synya swiped the grass with her claws. "The one called Gaum showed us the 'god' to be nothing but fire! We cook with fire! Fire serves us: we do not serve fire! What is there to fear, sign-reader?"

Parks nodded, then faced Synya. "Before Gaum came—did you fear Kadnu then?"

Synya thought back. "No . . . no, sign-reader. Before Gaum came we did not fear Kadnu. The light showed us the way to life. It fed and watered Ashah, it warmed our births, and watched as we danced. You do not fear such a thing: you love it." Synya choked as she suppressed a cry. "But that was before Gaum came."

Parks nodded, glanced at Kadnu, then studied the mounds of still fresh soil. "Synya, what is death to the vine people—what was it before Gaum came?"

"In death we served Ashah and were reborn with the Lost Ones." She waved her clawed hand at the nearest mound. "Now what is it? Burial next to a root? The end of life?"

The one called Dean slapped Parks' arm and pointed toward the horizon. "Look." Dean faced Synya. "What is that?"

Synya narrowed her eyes and studied the horizon. Directly beneath Kadnu there was a distinct bump marking the otherwise featureless surface. "It is Ashah. The vine my people tend."

Synya stopped and looked from the light, back toward the snow they had left behind. Regular mounds of soil reached to the horizon. Above, the sky was dark blue. Kadnu's light had drowned even the brightest of his sparks.

"To my eyes, sign-reader, it is as it always has been." She dug her claws into her breast. "But to this—here inside of me—nothing is the same! What is this pain inside of me, sign-reader? Name it!"

Parks studied Synya, then turned away as she looked at him. Before he turned, Synya had seen wetness in his eyes. "I have no name, Synya. But I know the pain. I know it . . . very well."

Parks resumed walking toward Kadnu. Synya saw Dean standing, watching Parks. Dean's brow was furrowed. "Dean, what is this I see on your face? Anger?"

Dean turned toward Synya, then shook his head. "No, Synya. Doubt—confusion." The one called Dean looked at the back of the other human. "There is much we humans do not know . . . about each other."

Dean began following Parks while Synya looked from one to the other. She held out her arms, extended her claws, and

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roared at Parks' retreating back. "You know this pain, sign-reader! Is what you bring us worth this pain? Tell me!"

Parks continued walking, not turning back, and not answering.

At the end of the walking period, they erected their shelters a few long leaps from the end of Ashah, the vine of Synya's people. Dean erected the fabric tent for the humans while the one called Parks sat cross-legged, studying the activity at the end of the vine. With their sharp claws, the vine people were stripping finger-thick sections of bark from the plant, while others cut free sections of the huge stem's meaty interior.

The strips of bark were handed down to others who would arrange them into close-fitting rows, which would then be spread with the thick sap of Ashah gathered by others. Synya talked among the workers for a long while, then returned to the two humans and squatted next to Parks. With her she held in her hands a piece of the vine's interior. She tore off a small portion and handed it to Parks. He took it, smelled it, then bit into it, and chewed.

"It is good, Synya—sweet. But does it spoil? How are the others tending the length of the vine fed?"

Synya waved a clawed hand at the air as she talked around a mouthful of food. "It is still cold here at this end of Ashah. The sections that are being cut free will soon be crust-covered. That protects the food as it is carried forward."

Parks nodded. "The vine-water dries in the air." He felt the stickiness on his fingers, then pointed at the workers laying the strips of bark and spreading them with the sap. "I see how your shelters are made. But is that one so large for a reason?"

Synya shook her mane. "It was the fat one who told them to build it."

The one called Dean walked up and joined them, squatting on the short, green grass. "Did she say Miklynn's been by here?"

Parks nodded, then pointed at the workers. "Miklynn told them to build something." He turned to Synya. "Did they say the purpose?"

Synya shook her mane and handed Dean a piece of vine meat. Dean bit into it and raised his eyebrows. "This is good."

"It is the body of Ashah. It could be nothing else."

Dean nodded and looked at Parks. "What is Miklynn up to?"

"I do not know. Synya, did they say where the fat one went?"

"Only that they saw him toward Kadnu. They had many questions about the fat one. Many questions."

Parks smiled. "And what did you tell them?"

"That you are the sign-reader of the humans, and that you will answer their questions in due time."

Parks snorted, then looked at Dean. Dean only shook his head. Parks returned his glance to Ashah and the workers. "The one thing I can never do is try to explain Miklynn." He looked at Synya. "Is your sign-reader near?"

Synya pointed at one of the workers high atop the body of the great vine. "Volyan. My grandson. He is one of our seven sign-readers."

Dean began shaking as his face turned red. Synya frowned at him. "Are you not well, Dean?"

Dean nodded, laughed, then gasped for air. "I cannot wait to tell Miklynn that his foot race was with a grandmother."

Synya tossed back her mane. "But I am not merely

grandmother." Dean frowned, and Synya continued. "Volyan's children are all mated, and each of the unions have been blessed by Kadnu with babies. All of them are now grown, have mated—" Dean fell backwards, laughing uncontrollably. Synya turned towards Parks to ask the reason; but the sign-reader, too, was fighting for air to feed his laughter.

Later, inside the humans' shelter, Velyan joined Synya and the two humans. Volyan's mane was gray but streaked with brown. He pointed at Parks. "What is the purpose of the large shelter with the strange design the fat one told us to build?"

Parks shook his head. "I do not know."

Volyan pointed at Parks' belt. "I know you can talk to the fat one if you choose. I saw him use such a thing to talk to creatures in a great craft, high in Kadnu's Light."

Parks pulled the communicator from his belt, studied it, then replaced it. "If Miklynn wishes to talk with me, he will call."

Dean pulled out his own communicator. "Well, I'll ask him if you won't. Damned if I know what it is." Dean pressed the object. He pressed it again.

"What?" Synya recognized Miklynn's voice.

"Red, we're at the end of the vine. What do you have these people doing?"

"I guess I was wrong, Dean. You are as stupid as you look." Dean's face flushed. The object spoke again. "Is Volyan there?" Dean held out the object towards Volyan and pointed at a small silver plate set in its surface. "Speak in there."

"Miklynn? This is Volyan."

"Do you still have that thing I left with you?"

Volyan nodded. "I do."

"Give it to Synya." The box remained silent for a moment, then spoke again. "Dean?"

Dean took the box from Volyan's hand. "Yeah, Red?"

"Don't call me any more unless it's important, got me? That call signal like scared the crap outta the people I was talking with. Miklynn out."

Dean looked at Parks, shrugged, then looked at Volyan in time to see him hand Synya a cigar. "Oh, for crying out loud!"

Synya inserted the proper end into her mouth then pointed a clawed finger at the other end and spoke to Volyan. "Fire." As Volyan left the tent, Synya nodded at Parks and talked around her cigar. "The fat one remembers. He thinks of me."

Parks grimaced. "Yes, Synya, the fat one is a regular . . . sweetheart."

"This last word, sign-reader. What does it mean?"

Parks sighed. "It means that such a person is . . . a polite and . . . loving—" Parks turned towards Dean. "You're the communication expert. You tell her."

Dean rubbed his chin and smiled. "It is not for me to divine the cryptic meanings of your visions, sign-reader."

As the human sign-reader pointed at the portion of his body upon which he was sitting and yodeled in the human speech at dean, Volyan entered the tent carrying a leaf from the vine. He squatted before Synya and opened the leaf. In its center was a bright, glowing coal. Synya touched the end of her cigar to it and puffed until the cigar was lit, filling the tent with the bittersweet smoke. At the suggestion of the human sign-reader, they all moved outside of the tent to continue their discussion.

They sat on the grass outside of the tent facing each other. Volyan laid the coal and leaf on the ground between them, and Dean leaned forward and picked it up. "Parks, I can hardly feel the heat of the coal through the leaf."

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Parks took the leaf from Dean, held it for a moment, then nodded. Synya pointed at the leaf. "We must wear wraps made of Ashah's leaves to protect us against Kadnu's heat at the growth-end of the vine."

Volyan looked at the two humans, then at Synya. He studied her for an instant, then looked at the burning coal. While the humans watched the end of Ashah, and as Synya puffed on her cigar, the look on Volyan's face grew more concerned. He turned to Synya.

"*Synya, first this fat one, then these two others. Boxes that speak, huge crafts in the sky, you making smoke from a stick. My sign-reader's eyes do not see the meanings. I see change, but what will that change be?*"

Synya pulled the cigar from her mouth and hung her head as she closed her eyes. "I almost forgot, then I am reminded."

She threw the cigar away and it hit the ground in a shower of sparks. "There will be change, Volyan—many changes." She nodded her head at Parks. "Their sign-reader should tell you instead of me." She shook her mane. "I cannot."

Parks pulled a blade of grass from the ground, pulled it apart, then dropped the pieces back to the soil. "How can I tell him, Synya, when neither you, Shadig, nor Neest could tell the people of your vines? You said that you would not be believed."

Volyan studied the human sign-reader, then studied Synya. "I see the same pain in you both. Synya, after what I have seen, I am prepared for the unbelievable." He reached out a clawed hand and placed it on Synya's arm. "You are my grandmother and the master of my vine. I can see truth from lies in you; and if you say the one called Parks tells the truth, I will believe."

Synya remained still for a long moment, then nodded at Parks. "Tell Volyan what the other vine-masters are being shown."

Parks licked his lips then turned towards dean. "Get one of those weather balloons from the tent." Dean left and Parks looked at Volyan. "The masters of all of the vines are being shown that Kadnu is a great ball of burning air. Then they will be taken far, far away from Kadnu to show them that . . . Kadnu is nothing more than one of many thousands of such burning balls. Those are the lights you call Kadnu's Sparks."

Dean returned and handed a small container to Parks. Volyan looked at Synya, then back to Parks. "There is more, sign-reader. I see there is more."

Parks nodded. "Yes, Volyan. There is more." Parks triggered the container and from its top emerged a white fabric that soon grew into a perfectly round ball. Half of the ball was lit by Kadnu; the other half was dark. Parks pointed at the ball.

"What you call the Endless Trail looks like this. It floats in space around Kadnu."

Volyan sat back for a moment, turned and looked at Synya, then returned his gaze to the ball. "And—and there is yet—more."

Parks pointed at the line between the light and dark sides of the balloon. "This is where the vine people live—where we are right now. The ball—it is called a planet—moves very slowly. Like this." He held his finger on the ball and rotated it until his fingertip was in the dark. "This is why Ashah and the vine people must move every growth, like this." He moved his finger from the dark back to the line without moving the ball.

Volyan stood, looked at Kadnu, then turned completely around, peering at the horizon. When he stopped, he was looking down at Synya. "Grandmother . . ."

Synya nodded, her eyes shut tightly. "It is . . . true! It is true, but . . . there is still more!"

Volyan remained standing, looking with astonishment from his grandmother to the human holding the ball. He squatted, and dug his claws into his haunches. "Parks."

Parks did not meet Volyan's glance. "Yes, Volyan."

"If . . . if what you say is true . . . and Synya says it is true. Synya says it is, and I see no lie in her, but if the trail is a . . . ball, what of the Lost Ones? We will never catch the god and meet . . . the Lost Ones?"

"Look at the other side of the ball, Volyan."

Volyan stood and walked until he stopped beside Dean. Parks continued rotating the ball in the same direction. "Just as your people must follow Kadnu, on the other side there are more people that must move from Kadnu. They follow the ice. I believe them to be the Lost Ones."

Volyan swiped at the ball with his claws, exploding it.

"This . . . this, thing you say . . ." He looked at Synya. "This cannot be true! Grandmother, this cannot be true!"

Synya stood, pain and anger contorting her voice. "You see no lie in me! It is true! My own eyes have seen this thing, and there is still more. Volyan! Still more! The humans have great machines that they will plant on this ball of ours! The machines will make the ball spin faster! So fast that our strongest runner could not keep up with Kadnu's pace! The ball will spin so fast that the ice will melt and the death-burn will cool!" She held out her arms. "The entire ball will be much like it is here, right now."

Volyan squatted and clawed at the green grass. "But Grandmother, why do they do this to us?"

Synya squatted. "We will grow things—food. More food than we can ever use. Then great crafts will come to take away the food and they will give us leaves for food. With the leaves we can have others come to us and make us shelters of stone, teach us things . . . we will be . . . prosperous."

Volyan rocked back and forth on his feet, digging at his haunches until he broke the thorny skin that covered them. "I see, grandmother, I see. And what shall the vine people do when the ball spins too fast to follow Kadnu, yet not fast enough to melt the ice?"

Synya looked at Parks, then squatted. "Tell him, sign-reader."

Parks had his elbows resting on his knees, his face resting in the open palms of his hands. He shook his head, Dean looked at Synya, but talked to Volyan. "The population will be removed from the planet until the proper rotation speed is achieved and the air masses have adjusted to the new surface temperatures. Right now the wind always comes from the cold side of the ball to the warm side, where it rises and returns to the cold side. In the centers of both the cold and hot sides, the air does not move. At the new speed, the coldest parts of the ball will be . . . at the top and bottom. The air will change. The wind will come from the top and bottom, meet in the middle where it will be warmest, then it will rise and return. The change will cause terrible storms—"

"Aaahh!" Volyan held his hands over his ears. When he let his hands fall, he looked at Synya. "How long have you known?"

"Twenty-seven growths."

Volyan looked at the grass before him. "How could you keep this awful knowledge within yourself for so long . . ." He turned to Dean. "How long will we be away from . . . here?"

Dean thought a moment. "Between seventy and eighty growths." He shrugged. "Maybe more. It depends on many

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things."

Volyan looked at Synya. "Maybe more. It depends on many things."

Volyan looked at Synya. "You will be dead before you see this."

Synya looked at the human sign-reader's face. It was streaked with wetness. "Parks, is there a chance that this will not happen?"

Parks barked out a laugh. "Not with the fat one in charge, Synya. Miklynn will see that the job is done. He has to."

In her hut, Synya curled to sleep, rearranged her position, and curled again. The yodel of the nearby human voices, this time, was not soothng.

Dean, I've been with Miklynn for too long. He doesn't like this job, but it's the job he's been given to do, and he will do it."

"Parks, if he doesn't like it . . ."

"The only reason he doesn't like it is because it's a post follow up operation—a milk run. He couldn't care less about vines, vine people, or anything else."

"Parks, what if the people won't go? What can Red do about it?"

The one called Parks was silent for a moment. "Dean, you are stark-flapping out of your marbles if you're thinking of working against red." He was silent for another moment. "What did you have in mind."

"What about denouncing Red as a heretic?"

Parks laughed. "What about the vine-masters? Synya?"

"We can say . . . tricks were played on them. That what they saw were all lies. From Volyan's reaction, which do you think the Vine people will want to believe?"

There was a long silence. "Two problems, Dean. The first one is that we would be part of this conspiracy. Second, have you seen the claws on those suckers? Besides, we'd be putting Red in danger." Parks sighed. "Anyway, if it wanted to, the Terraform Corps could probably get this population removed by force under the Savage Planet Regulations."

"Parks . . . we can't just go along with this."

"Of course we can. And we will. Read your enlistment papers sometime," Synya heard movement inside the humans' shelter. "That's it for me, Dean. I'm hitting the sack."

The humans were quiet for a long time. Then the one called Dean emerged from the shelter and walked away from Kadnu for a long time. Still Synya's keen ears heard the beep of his talking box, then she heard Dean speak the humans' yodel. "This is Dean. Put Arango on the horn."

Silence, then a strange voice. "Arango. What's up, Dean, why are you on this frequency?"

"Because that's the frequency I picked, Okay."

The talking box was quiet for a moment. "What're you up to, Dean?"

"I want the data the orbiting station has on the other side of this planet."

The box was silent again. Then the strange voice spoke. "I shot down all that stuff to Red forty hours ago."

The one called Dean paused a moment. "So shoot it down to me. Parks and I haven't seen Miklynn for longer than that."

"Okay. You on the record?"

"Yeah."

"Here it comes." Synya heard a series of squeaks and bips that lasted but a short breath. "That's it. Now, you want to tell me why you're on this frequency? Your team is supposed to be on channel eight."

"I just didn't want to wake up the others."

"Uh huh. You mean you don't want red to find out."

"Maybe, Arango, maybe."

"It better be, if you know what's good for you, Dean. Arango out."

Synya heard the talking box make a clicking sound, then it began to speak in a voice similar to the human yodel, but devoid of emotion or degrees of expression. She dozed and when she awoke, the flat yodeling still came from the box.

Synya noted the shadows Ashah made by Kadnu's light. The shadows had moved a few grains. The human Parks would awaken soon, yet the one called Dean had listened to his talking box the entire time. She listened to the flat yodel a moment longer, then heard a click followed by a series of bips and squeaks. For a long while she heard nothing but the steady wind from the ice, then she heard Dean's boots grinding against the soil. He was walking even further from Kadnu's light. She heard him stop, then talk to himself.

"Dammit. Aw, Goddammit all to hell." He was unmoving and quiet for a moment, then he shouted, "Parks!" He waited for a moment, then shouted again, "Parks!"

Synya saw the other human emerge from the fabric shelter, sealing the top of his green skin. "Dean?" Parks looked toward the vine, shielding his eyes from Kadnu's light. "Dean, where are you?"

"Back here."

Parks turned around and faced the darkness. "What is it?" "Come here," Parks began walking away from the light. "It's Volyan. He's dead."

Synya stood between Dean and Parks as the three looked into the pit that had been dug, exposing one of Ashah's severed root ends. At the bottom of the pit, curled among the root branches, was the sign-reader, Volyan, his throat slashed with his own claws. The one called Parks turned towards Synya.

"I am pained at this, Synya. Believe me."

Synya stared at the body of her grandson, then she squatted and began pushing the soil back into the pit with her hands. The two humans stood still for a moment, then began kicking the soil into the hole with their boots. Synya stopped and looked first at Dean, then at Parks. "Do not use your feet. The soil must be replaced with the hands." The humans paused, then knelt next to her and pushed the soil into the pit, wondering about the wetness on the faces on the humans.

When they were finished, the soil over the root end was mounded and smoothed. Synya gathered several pieces of vine bark and began pressing them into the mound as she talked.

"Volyan, sign-reader and son of my son, may you in death serve the Lost Ones as in life you served Ashah and its people." Synya finished the vine-bark design on the mound: three horizontal pieces. She looked at the design. "Will you serve them, Volyan? Will Kadnu ever shine upon you again?" She shook her mane. "How to feel?"

She stood, the humans at her sides, then the one called Dean pointed at the design. "Synya, what is the meaning of that mark?"

Synya looked at the design. "It represents the name of my grandson, Volyan."

Dean nodded. "Synya, I wish that we had not told him. I feel as though Parks and I killed him."

Synya turned from the grave and began walking toward Kadnu. "He would not have believed you except for me. We are equal in Volyan's death. With each other and with . . .

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truth."

The two humans glanced at each other, then followed her.

The ice wind flew at their backs, bringing the rain as they walked past the vine people cutting the meat from Ashah, and the others still occupied with the fat one's project. The humans studied the thing Miklynn had instructed the vine people to build, but could not divine its purpose. Neither did those who worked on the project know its purpose.

Synya had asked them why they worked so hard for an unknown objective at the instruction of a strange creature. They answered that the fat one had a certain manner about him that left little room for objections, and he had said that Synya would tell them to continue the construction when she again returned to Ashah.

The ones called Parks and Dean had watched Synya's face as she thought for long moments. Then she had instructed her people to complete the fat one's assignment. Afterwards the three continued their journey toward Kadnu.

The three walked in silence, ignoring the food-burdened vine people passing them to bring the vine meat to others who would, in turn, pass the food forward to nourish those who tended the great vine, the one called Parks studied the thick, curled roots leading from Shah's massive body across the ground. The path they followed twisted with the vine as it kept near the body, allowing the heavy food traffic to pass beneath great loops under the vine or its gnarled roots.

Ashah was leafed only along its root branches, and Parks could see where many of the leaves had been harvested. As they reached the great scar that encircled the boy of Ashah, the thickness of the vine diminished, marking the beginning of the next growth. Beneath the scar, Synya led them from the path to a smaller path following one of the great root branches. Smaller roots led from the branch to the ground, and Parks could see where clawed hands had dug channels from small pools of water to feed the roots. Huts, both large and small, were located near the branch, but none were occupied. Parks spoke to Synya, raising his voice against the sounds of the wind and rain.

"Synya, why have you taken us on this path?"

Synya shook the water from her mane, then stopped and faced Parks. "I must tell my son, Royah, of Volyan's death." She held out a hand toward a cluster of huts near the end of the branch. "It is not far."

The one called Dean hunched his shoulders against the rain and began walking in the direction of the huts. Parks and Synya followed. Synya glanced at Parks' face, then looked toward the huts. "There is a question on your face, sign-reader."

Parks nodded. "You read my face well."

"You would ask why I told them to complete the fat one's assignment."

Parks nodded again. "Yes. Miklynn and the rest of us are here to change everything that you and your people hold dear, yet you would do Miklynn's work for him. Why?"

Synya walked in silence for long moments. "Sign-reader, who is to say that the future you bring us is not better than the present we now occupy? This future is beyond my experience, beyond my wisdom. But the fat one knows."

Parks bit his lip, then faced Synya. "How can you be certain?"

"I can be certain of nothing, sign-reader. Your people have shown me. All my certainties have been proven false. All that remains is trust." She looked at Parks. "And I read a dislike

of this task in the fat one's face."

Parks laughed and wiped the water from his face with a gloved hand. "You read his face with accuracy, Synya." His face again grew somber. "But you have read wrongly his motives."

"Tell me, sign-reader. Tell me of the fat one."

Parks walked in silence, searching for words. "Synya, all of the people like me that you have seen belong to a . . . group—a people whose purpose it is to change . . ."

"Planets."

Parks smiled and nodded. "Yes, planets."

Synya looked at the muddy path, the boot prints of the one called Dean filling with water. "As the Endless Trail is a planet. And to make them better places."

Parks nodded. "There are different parts in the process of changing a planet. The first part is called troubleshooting. Each planet is a puzzle that must be solved before it can be changed."

Synya looked up at the gray sky. "As the one called Gaum did here?"

"Yes." Parks looked toward Synya. "It is a special task, different from the actual process of what we call terraforming, changing the planet."

"As we have special ones to read the signs, find the water, dig the channels?"

Parks nodded. "The ones who change the planet take the solutions of the troubleshooters and perform the task of change."

Synya again shook the water from her mane. "But what of the fat one?"

"He, Dean, and I are trained to be troubleshooters. The fat one commands a group of troubleshooters."

Synya stopped and placed a clawed hand upon Parks' arm. "Then why . . . why are you here, if the one called Gaum has already done this—solved our puzzle?"

Parks grimaced. "It is a punishment. The fat one is in disfavor with his superiors—"

Synya's eyes widened. "The fat one has superiors?"

Parks shrugged. "Yes, but not that he acknowledges. That is why they do not smile upon the fat one and have given him—and us—this punishment."

Synya studied Parks' face. "You find the first task exciting, but the second without interest?"

"Synya, the job we do has challenge, danger. We are scraps of flesh with nothing but our minds and instruments. Take this and throw it against a strange planet—skies that rain fire, great pools of water that can reach out and destroy a mind, flying and crawling creatures that can kill with only a touch—"

Synya turned and resumed following Dean. "And the fat one is nourished by this danger, but is starved—" She pointed at her breast. "—in here at finishing the task when the danger is past."

Parks nodded. "He will finish the task here, Synya, as fast as he possibly can. Just to be done with it. That is the dislike of this task you read in his face." Parks shook his head. "He could not stop what is happening here if he wanted."

Synya looked down at the muddy trail. The brown flash of a tiny creature fled into the grass. "That is why you believe I should not trust the fat one?"

Parks shut his eyes and nodded. "Yes."

They walked in silence for a long moment. "Sign-reader, I think you to be wrong. My mind is not settled on this, but I think you to be wrong. But there is something I do not

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understand."

Parks shrugged. "What is that, Synya?"

"You speak this way about the fat one, that I should not trust him. And when you were together speaking in the humans' yodel, I read anger and disrespec' in your words towards him." Synya faced the one called Parks. "Yet you hold a great love for the one called Miklynn."

Parks studied Synya's face, then turned his head and again faced the direction of the trail. "Yes."

"Why is this, sign-reader?"

Parks shook his head and continued walking. Synya read the signs of a struggle within the human sign-reader. The one called Parks slowed to a stop, his gaze still fixed on the trail ahead. Synya stopped beside him.

"Synya, I once faced a moment such as that which killed Volyan. The details are unimportant. But my god was dead—it had never lived. All that I knew of the universe and my place in it was smashed . . . I think I would have done the same as Volyan, but then Miklynn came along. He gave me planets to test myself against. He forced me to find a new place in the universe, a new meaning. Yes, I love him."

"Then, sign-reader, in what do you believe?"

Parks looked down. "In myself, to a small degree. For the rest, I believe in Miklynn."

Synya stood erect. "You think the fat one to be a god?"

Parks laughed, shaking his head at the same time. The laughter brought the wetness to the sign-reader's eyes. "No, Synya, no. Miklynn is no god."

"But you trust him?" Synya watched as Parks turned and continued down the trail. She remained standing, and shouted against the sound of the rain. "You trust him, yet you tell me not to trust him?"

Parks stopped and turned back toward Synya. "I do not trust him to be always right. He can have my life anytime he asks for it. I owe it to him. But he is not always right."

Synya watched the sign-reader move down the trail. She turned and followed, her mind troubled.

After the tenders had returned to their huts, Synya and the two humans sat on beds of dried grass in the large shelter of her son, Royah. Synya's son had brought coals and dried vine bark to build a fire of celebration. The visit of his mother and her strange companions would be cause enough for the fire, but it had been planned for a long time. Royah's granddaughter and her mate and the babe were to leave and move toward Kadnu. The babe, Vidnya, would begin with Ashah's new growth and gather its size, strength, and gray hairs tending the new growth, until it and the growth were touched by the ice wind and charged with feeding the people of Ashah.

As the hut warmed, the humans pushed back from their heads their fur-ringed skins, then unsealed and removed them altogether, exposing the fabric of their thinner, interior skins. As the fur of the two vine people dried, Synya noticed a strange smell. She looked at the one called Dean. His face held a strange expression as he turned toward Parks. "Parks, old buddy, you are getting just a little bit ripe."

Parks pulled out the neck of his green skin and sniffed. "Hmumum." He leaned toward Dean and sniffed again. "I wouldn't put money on who stinks the most."

Synya nodded her head toward Parks. "Sign-reader, what is this smell? And why do you two talk the yodel?"

Parks faced Synya and smiled. "We meant to keep nothing from you." He held out his hand toward Dean. "It is past due for Dean and I to . . . perform out . . . water ritual."

Synya's eyes widened. "What ritual is this?"

Parks rubbed his chin, then held out his hands. "We must cover our bodies with water—"

"Are you crazy, Parks?" Dean pointed toward the open end of the hut. "You know how cold that water will be?"

Parks frowned at Dean, then returned his gaze to Synya. "The one called Dean objects to discussing our ritual with strangers. I will attempt to show him that you are both friends and understanding." He turned toward Dean. "Dean, you and I stink already, and this hut is just warming up. What do you think it's going to be like when the rest of the party shows up?"

The one called Dean grimaced at the human sign-reader, then faced Royah and Synya. "Synya, Royah . . . I see my error. Is there a pool of water in which we may perform our ritual without offending Ashah or its people?"

Royah's face grew angry. "You would dip your bodies in waters that feed Ashah, that people drink!"

Dean licked his lips, then continued. "There must be pools that do not feed Ashah, from which the vine people do not drink."

Royah held out a clawed hand. "I cannot see poisoning any of our waters to serve some . . . ritual not of Kadnu, not of Ashah." He leaned forward toward Dean to make a further point, but returned to his place, his nose wrinkled in disgust. "Whew." He shook his head. "What is the purpose of this ritual?"

Dean grinned. "It will remove our odor."

Synya placed her right hand on Royah's left shoulder. "My son, it seems that the ritual is a necessary one."

Royah nodded. "It is Kadnu's own truth." He pointed toward the back of the hut. "Beyond the end of the root—way beyond the end of the root—there are pools. Use one of these pools and mark it well."

Parks and Dean stood and lifted their packs. "How shall we mark the pool?"

Royah thought a moment, then turned toward Synya. "How shall they mark the pool?"

Synya made an X in the soil of the hut's dirt floor, then looked at Parks. "Take two lengths of bark with you and stick them into the soil so that they stand upright, but crooked in this manner."

Dean studied the mark, then pointed at it. "What is the mark's meaning?"

Royah covered his mouth and snuffled into the hair on his broad chest. Synya held out her hands. "It is not important. But should the vine people see this, they will avoid the pool."

Dean frowned and his voice took on many of the qualities of the fat one's voice. "What is the mark's meaning?"

Synya lowered her hands. "It is a sign-reader's mark. There are tiny boring worms, other creatures that appear as only a slight brown tint to the water—they are not good for Ashah. They make Ashah's roots die. If the vine people drink from such waters, their waste is painful and thin."

Dean turned toward Parks. "Diseased. I've got half a mind to sit in here and stink up the place."

Parks pushed Dean from the hut. "I can't stand it any more than they can. Let's go." Parks waved at Synya, then followed Dean.

Synya listened to their boots sucking at the mud for a long while, then she faced Royah. "You have heard about Volyan?"

Royah nodded. "This is why you have come?"

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"Yes."

Royah looked at Synya. "Volyan now serves Ashah and the Lost Ones. It is my own wish when my time comes." He looked at the fire and took a deep breath. "The smell improves." He looked back at his mother. "Did he fall from the vine, or did he wander too far looking for signs, falling to the ice scavengers?"

Synya turned her eyes from Royah and looked at the fire. "My son, Volyan dug his own root-end and caused his own death. Then the ones called Dean and Parks, and I your mother, replaced the soil and built and marked the mound."

Royah's eyes widened. "Volyan . . . was mad?"

"No."

Royah looked at the fire. "The creatures with you. Do they—have something to do with this?"

Synya wiped a clawed hand across her face. "Something, but they did not kill Volyan. They bring with them an awful knowledge. Volyan chose death rather than life with what he knew."

Royah looked out of the open end of the hut. The rain was thinning. Soon the clouds would leave Kadnu's face, letting his light warm the ground. "Synya?"

"Yes, my son."

"Do you have this same knowledge—that which brought Volyan to end his own life?"

Synya nodded. "Yes. I have held this knowledge for many growths."

Royah looked at Synya. "Yet you choose to live."

Synya shook her mane. "Royah, I have not chosen to die."

"There is no difference."

"There is a difference, Royah. I cannot explain it to you, but there is a difference."

Royah was silent for long moments. "Then I must accept what you say. You are my vine-master."

"Royah, do you trust me?"

Royah looked at Synya. "You are my vine-master. You ask strange questions."

Synya held out her hands, claws extended, then she pointed the claws at her own breast. "Do you trust me? Do you trust me to be always right?"

Royah stared at the fire, then added a stick of bark to the flames. He looked down at the ground between his legs. "I do not know how you would have me answer your question."

"With the truth."

"Vine-masters make mistakes. They are not gods, Synya. You are not a god." He lifted his gaze to the fire. "You made a mistake four growths toward Kadnu when you argued with the sign-reader about where to root Ashah to keep the vine moving toward the light. It took another three growths for you to correct the mistake." Royah looked back at the ground. "And other vine-masters have made mistakes." He looked at Synya. "This is a hard question, Synya."

Synya nodded. "I still need an answer."

Royah held his hands to his head, then clasped them beneath his chin. "I do. You make mistake, but I trust you to be always right." He held out his hands. "If I did not hold this trust, I should have to challenge you for the position of vine-master. I would have to because not to trust you I would have to think myself superior to you in my knowledge of Ashah, Kadnu, and the good of our people." He shook his mane. "I do not think of myself in this manner. I trust you to be always right because you are the superior in knowledge."

Synya covered her eyes with her hands. "Even though I can make mistakes."

Royah nodded. "What choice have I? I must trust you to be always right." He shook his mane. These are strange questions, Synya. The answers hurt my head. Why do you ask them?"

"I must place my trust in the same manner, and for the same reason."

Royah pointed a claw toward the back of the hut. "In one of those creatures?"

"No. The other one that went before us."

"The fat one who has the cutters and carriers building the strange shelter?"

Synya nodded. "You have seen him?"

"No. News of his instructions reached me, but I did not see him." He wiped a clawed hand across his face. "Synya, this knowledge that Volyan could not bear; am I to share it?"

"No."

Royah nodded, then looked at Synya. "Have you fear that this trust you have in the fat one may be a mistake? Synya, do you trust yourself? Do you trust yourself to be always right?"

Synya stared at the fire. "In asking hard questions, Royah, you are easily my superior."

They both sat in silence while the fire crackled and the strange beings splashed and cursed in the cold water far beyond the end of the root.

Synya—oldest and master of the vine—stood closest to the fire holding the babe, Vidnya, in her arms. Royah, flanked by the babe's parents, Ahrmin and Dathroh, squatted in the first ring around the fire, while their friends and relatives completed the ring. In the third ring, against the wall of the hut, the ones called Parks and Dean listened and observed the ritual of the newborn and the new growth.

The babe, although thickly coated with hair, had no claws or fangs. Synya held Vidnya out, the babe's face and body toward the fire. "Vidnya, observe the heat, the flame. Love them and mind them, for they are the nature of Kadnu. Observe the light, for Kadnu will direct you as you grow to tend Ashah's new beginning."

One of those squatting in the first ring pulled forward a sack made of vine leaves glued together with sap. The sack was opened, exposing a mound of snow. The snow was made level with clawed hands, then Synya turned her back on the fire and placed the back of the babe upon the cold, soft bed of ice crystals. The babe whimpered at the feeling of cold on its back.

"Vidnya, observe the cold and whiteness. Fear them, but mind them, for they bring the ice and death." Synya held her clawed hand over the babe's eyes. "Observe the darkness, for it brings with it the end of the growth you shall tend. And when your growth of Ashah has fattened, then fed and sheltered its people, your duty and your life shall end, your body to become a part of Ashah, to bring the life of Ashah to those who wander in the darkness. In death you shall serve the Lost Ones as in life you shall serve Ashah."

Synya lifted the babe from the snow, held it aloft, then handed the child to its mother. A roar of approval filled the large hut, then those near the hut's entrance brought in great pieces of vine meat. Synya removed herself from the center circle as others began the task of cooking the feast. She stepped through the first and second rings and squatted next to the one called Parks. She read a curious look in his eyes, a calmness in his face. When she spoke, she kept her voice low, that only the humans could hear.

"Sign-reader do you find our ritual savage—childish?"

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The one called Parks slowly shook his head. "No, Synya, I found it beautiful—its form, its meaning, its purpose." The human sign-reader kept his gaze on the activities in the center of the hut—the preparations for the feast, the touching of the babe, the rough well-wishing to Vidinya's parents. The one called Parks observed this as he leaned back against the wall of the hut, his mind closed to all but his eyes.

Synya looked past the sign-reader to see the one called Dean sitting cross-legged, his elbows on his knees, black anger upon his face. He too studied the activities in the center of the hut. Synya licked her tongue over her fangs, then spoke. "And you, Dean. How do you find our meaningless ritual?"

Dean abruptly turned his head toward her. "It is not meaningless!" He spat out the words in a hoarse whisper, then pushed himself to his feet. "It is true!" He stepped around Parks and Synya, then went through the entrance of the hut.

Synya watched the one called Dean until he left, then stared openmouthed at the empty doorway. She turned to Parks to see the human sign-reader's mouth also hanging open. "The one called Dean, sign-reader; what can he mean?"

The one called Parks held out his hand toward the entrance. "Synya, let us find out what he means." The sign-reader stooped, picked up the packs of the two humans, then stepped around Synya and left the hut. Synya took her shelter roll and followed, after bidding her son farewell.

A third of the way toward the main path, Synya and Parks caught up with the one called Dean. He was sitting on the low curl of a root branch, tossing his talking box from one hand to the other. Synya read anger in his face. Dean looked up at them, then back at the box he tossed from hand to hand. After long moments, the one called Dean looked up again at Parks, then spoke the yodel of the humans. "Red won't answer his communicator. Neither will the orbiting station or the command ship."

The one called Parks pulled his own talking box from his belt and spoke to it. "Red?" He waited. "Red, where in hell are you?" He waited, shook his head, then turned up a small knob on the box. "Arango? This is Parks. Answer up." The human sign-reader studied the box for a moment, then he smiled. "Arango, I'm willing to believe that one communicator is not functioning, but not two at the same time, and if you don't answer I might just tell Red about you and a certain somebody named Julia."

A long silence, then the box spoke. "This is Arango, you son of a bitch. Red ordered communications shut down, and you better hope like hell that he isn't listening in on this channel."

Parks thought for a moment, then held the box to his mouth. "Where's Red, and what's going on?"

"Red's at the hot end of the same vine you're at. I don't know what's going on." The box crackled for a moment. "The bunch Assir took up is on its way back. Red ordered Assir to put down near where he is now."

The one called Parks frowned, thought for a moment, then spoke into the box. "Thanks, Arango. And I didn't really meant that—telling Red about Julia."

"Fry in hell, Parks. Arango out." The box went dead.

Synya watched as the one called Dean raised his eyebrows at the sign-reader. "You mean Arango got Julia—"

"Zip it up, Dean." Parks looked at Synya, then back at Dean. "Synya and I want to know what you meant about the ritual."

Dean hung his talking box on his belt and stared at the

still-moist ground in front of his feet. "It is true. All of what Synya said in the ritual is true."

Synya squatted in front of the one called Dean. "How can this be?" She held a clawed hand against the soil. "This is but a great ball floating in nothingness. Kadnu is a ball of burning air . . . and the lost Ones. They walk the other side of this ball. How do we serve the Lost Ones? How will Vidinya bathe in Kadnu's light—"

"Look." Dean bent over and drew a great circle in the moist soil. To the right of it, he drew another, smaller circle with lines coming from it. He pointed at the smaller ball. "This represents Kadnu." He moved his finger back to the original circle. He marked off a small segment, he drew in an arrow pointing away from Kadnu.

"This is the direction in which the planet rotates." Underneath the arrow, Dean drew a smaller arrow pointing toward Kadnu. "This is the direction in which Ashah grows." He pointed at the dark end of the segment. "This is the end of Ashah that feeds the vine people, and where the root ends and branches are severed." He looked at Synya. "And this is where Volyan is buried next to one of the severed roots."

Synya studied the picture in the soil, then nodded. "But, Dean, then comes the ice."

The one called Dean nodded and pointed around the half of the circle away from Kadnu's light. "Volyan is buried deep, and as the planet rotates, both he and the root end will go under the ice. But . . . while this happens, Volyan will . . . Dean looked at the sign-reader, then back at Synya. "He will become part of that root end—nourishing it and keeping it alive." Dean's finger followed the curve of the ice side until he reached the bottom segment. "This is where your Lost Ones are."

He drew a small arrow beneath the segment pointing away from Kadnu. "This is the direction they must travel to avoid the death-burn." He moved his finger to where dark turned to light for the Lost Ones. "And this is where Volyan, as part of Ashah's root end, breaks through the soil. The vine-masters there train the sprouts to root and grow together, forming a single vine body." Dean pointed along the Lost Ones' segment toward Kadnu.

"At the hot end, the vine is fat, and it is cut to feed the people there. They tend their portions of their Ashah in much the same manner as your people." Dean sat up, folded his arms, and rested his elbows on his knees. "And when the Lost Ones die, they too are buried along with severed root ends of their Ashah." He unfolded his arms and pointed at the side of the circle facing Kadnu. "In the heat that reaches deep into the soil, the bodies of the Lost Ones and the vine roots . . . change. They both . . . come apart, then become one with the soil."

Synya shook her mane. "That makes no sense to me."

The one called Dean moved his finger around the hot side until he came to the growth end of Ashah. "What do your sign-readers look for here, Synya? What do they do?"

Synya studied the diagram. "At the growth end of the vine, the sign-readers study the soil with their eyes, claws, and tongues. Then they mark the places where Ashah's roots must be . . . led. Where the water must be brought . . ."

Dean nodded. "The sign-readers are looking for the old graves of the Lost ones—fertile soil in which to root Ashah. The Lost Ones, and Volyan, then become parts of the new Ashah."

Synya nodded, looked at the great body of Ashah stretched across the horizon, looked at Kadnu, then back at the diagram

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at her feet. "And they will serve Ashah and the Lost Ones as Ashah has served them . . . And Kadnu's light will shine upon them forever."

The one called Dean looked up at Synya. "Do you know what the Lost Ones call your people?"

"They know of us?"

Dean looked down, but not at the diagram. "In their language, they call your people the 'Lost Ones'." Dean looked up at the human sign-reader. "I had Arango shoot me down the stuff on the other side before Volyan killed himself."

Dean nodded. "First by legend, then by their vine-masters being taken up and shown what your vine-masters are being shown."

"What do they call us?"

Parks looked at Synya. Her eyes were raised toward the vine. "I had Arango shoot me down the stuff on the other side before Volyan killed himself."

Parks looked at Synya. Her eyes were raised toward the vine. "It is true. Despite everything we have seen, it is true. The light of Kadnu shall shine on Volyan—and all our dead—forever."

Parks looked down at the diagram, then erased it with his boot. "As long as Ashah and the other vines live, it is true." He threw Dean a pack, then began shouldering his own. "But you forget, Synya; we are here to kill your vines. We will make you fat and rich and we shall have brought to you the many wonders of many worlds to teach you, to do your work, to amuse you. All you must do in exchange is . . . deny that which you know is true. All you must do is kill your god."

Dean stood and shouldered his pack, then faced Parks. "What're you going to do?"

Parks shook his head as he looked at the vine. "I don't know. Why did Red order a communications blackout?" The sign-reader looked down for an instant then pulled the talking box from his belt. He pressed his finger against it several times, then spoke at it. "Red, this is Parks. Answer." The box was silent. Parks pressed his finger against the box several more times, then spoke at it. "Red, this is Parks. Answer." The box was silent. Parks pressed his finger against the box several more times, then spoke again at the box.

"Red, I'm going to keep beeping your box until you answer." Still the box remained silent. Parks pursed his lips, then held the box to his mouth. "Red, what if I told Arango about you and a certain person named Julia?"

The box crackled for an instant, then Synya recognized the fat one's voice. "Parks, you sonofabitch, you are going to look damned silly with your leg shoved down your throat—hip first! Now, I ordered a blackout; what'n hell're you doing on the damned horn?"

"Why the blackout, Red?"

"Parks, have you gone stupid on me all of a sudden? Now, it wouldn't make much sense to order a blackout, then to tell you over the horn—with everyone listening in—just why I don't want them to hear what you want me to say." The box was silent for a moment, then spoke again. "Where are you and Dean?"

Parks spoke into the box again. "We're on a path just beyond the first growth."

"I want you two to move up to the hot end as fast as you can. Is Synya still with you?"

"Yes." Parks paused for a moment. "Volyan is dead."

The box crackled again. "One of you had to shoot off his big mouth, right? Put Synya on the horn."

Parks held out the talking box to Synya and pointed at the

small silver plate in the box's surface. "The fat one would speak with you. Talk in there."

Synya held the box. "Miklynn?"

"Synya, I am pained to hear about Volyan. Believe me."

She looked away from the box, glanced at Kadnu for a moment, then turned back to the box. "I believe you." She was silent for a moment. "Miklynn, we have learned much since you left us, and I must tell you of these things."

"Not on the talking box, Synya. I know the things that you know, and I will take care of everything. But no one must speak of these things on the box. Do you understand?"

Synya nodded her mane. "I understand."

"Do you trust me, Synya?"

She looked at Parks and read both the pain and the doubt there. She read the same in the face of the one called Dean. The tiny box in her hand seemed very heavy. "Miklynn . . ."

"Yes, Synya."

"Miklynn . . . I trust you." She handed the box back to the human sign-reader.

Parks lifted the box to his mouth. "Is there anything else, Red?"

"Yeah. Do you two meatballs figure you can keep your traps shut and follow orders for another thirty or forty hours?"

Parks smiled. "Are you asking me if I trust you, fat one?"

"I'll give you a fat one . . . What about it? You two going to follow orders or not?"

Parks looked at Dean. The one called Dean kept his eyes down, shrugged, then faced the sign-reader and gave a single nod. Parks spoke into the box. "Okay, Red. We'll see you at the hot end." He hung the talking box on his belt.

Synya studied the sign-reader's face. "Sign-reader, did the fat one ask for your trust?"

"Yes." Parks nodded. "In his own way."

"And will you trust him? I remember what you told me before about your trust."

Parks studied Synya, then looked toward the vine. "I trust him just this time." He shook his head. "I do not think I have a choice."

The ice wind blew, but the sky remained clear as Synya and the ones called Parks and Dean came to the main path and turned in the direction of the food carriers. They offered little in the way of greetings to those vine people that saw them; they offered nothing in the way of explanations. As they passed each growth scar encircling Ashah's body, the vine grew thinner, the grass taller, until at the twenty-seventh scar the vine was no thicker than Synya's height. Kadnu was higher, and the three erected their shelters in a shadow made by a high curl and twist in the vine. The people serving the twenty-seventh growth were in their middle years, and Synya watched them at their work and play as she listened to the yodel of the humans coming from their shelter.

"Parks, how do you think Red will get them off this rock?"

A long silence. "I don't know. Maybe he has some other answer."

"What answer?" The one called Dean snorted. "With the figures we have now, it'll take maybe six or seven years to bring this planet up to speed, then another I don't know how long for the air masses to adjust. Then there's reestablishing the population, getting them set up as farmers, establishing a social framework, seeding the damned place . . ."

The one called Parks laughed. "Red's not going to like that, but he has a reputation to protect. No planet's ever licked Red, and he certainly won't throw a farming job—"

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Synya heard the beep of a talking box, then she recognized the voice of the one called Assir—the one who had taken the vine-masters away. "Red?"

She heard the fat one reply through the same box. "What is it?"

"Do you want me to shoot down the data the rockhounds dug up? I have—"

"Assir, I ordered a commo blackout. Didn't you get that from the orbiter?"

"Yeah, but I thought—"

"Quit bragging, Assir. If I want the data before you land, I'll ask for it. Just put that crate down near the hot end of the vine as soon as you can. But not too close. Put it down around a thousand meters north of the vine. Understand?"

"I understand, sir. Assir out."

Synya listened, but the fat one made no reply. Instead, she heard the movements that spoke of the humans making ready for their sleep period. They were quiet and still for long moments, then the one called Dean spoke in a quiet voice. "On a compassion scale of one to ten, where would you place Red?"

"Off the scale." The one called Parks paused for a short moment. "But which way, I don't know."

"Red isn't exactly a bleeding heart, Parks."

A long silence. "We don't always bleed for the entertainment of others, Dean."

"What's that supposed to mean?"

"How much do you know about Red, or me, or yourself for all that goes? I've been with Red longer than anyone in the group, and I know that I don't know him. On the outside, he blusters a lot, but you know the scrapes he's gotten us through. He's smart, he's got guts, and he's loyal to us—the people in his group. He . . . he's also got this thing about the job. I suppose it's a kind of loyalty to himself. But what he feels inside, about anyone or anything, I don't know. I don't even know if Red knows that."

One of the vine tenders came into view not far from Synya's shelter. The vine tender shielded its eyes from Kadnu's light and looked toward Synya. Synya motioned with her hand that she was not sleeping and the vine tender ran to stand in the grass in front of the shelter's opening. "Synya, vine-master."

Synya studied the vine tender's face. "Your name?"

"My name is Tuneh, vine-master." Tuneh glanced from Synya to the humans' shelter then back to the vine-master. "Vine-master, these strange creatures following on the heels of the fat one that went before. There is much talk."

Synya turned from the female and curled into her sleeping position. "There is always talk."

"But what is the meaning, vine-master? What will they mean to the vine people?"

Synya moved her position slightly, then settled herself more comfortably. "Of these things I must not speak." She listened as the vine tender moved away with slow steps. The fat one had said to speak of nothing on the box. Synya nodded as she began to doze. Even without the box, silence appeared to be sound advice.

The sky was clear despite the wind at their backs as Synya and the two humans left the scar of the twenty-seventh growth behind and followed Kadnu. The humans had removed their thick outer skins and wore only their thin inner skins. As they approached the thirty-fourth growth, the seed pods on the tall grass stalks were fat and covered with insects waiting for the pods to open that both they and the seeds could move toward

Kadnu. Tiny brown-furred creatures moved through the grass to meet the insects when they landed.

The light green of the humans' inner skins was stained dark with wide patches of moisture as they moved ever closer to the newest growth. Past open seed pods being emptied by the wind, the vine tenders became younger and wore caps made from Ashah's leaves. At the scar of the thirty-ninth growth, the tenders wore both caps and capes of leaves. Synya and the two humans left the scar in similar attire.

At the forty-fourth growth, the vine—now no thicker than the leg of the one called Dean—lay across the bare, seeded ground. The heat of Kadnu shimmered from the soil, making each breath for the humans thin and ungratifying. They paused there to watch leaf-covered vine tenders and their young gathered away from the vine, performing some ritual. The one called Parks, his breath short, turned toward Synya.

"Synya, what are they doing . . . and in this heat?"

Synya narrowed her eyes against Kadnu's light and examined the tenders and their activities. She stopped, turned toward the one called Parks, then shook her leafed head. "This ritual has no meaning for me, sign-reader." She looked at the one called Dean. "Do you know what this is?"

Dean frowned and studied the vine tenders. "Synya, it looks—" Dean shook his head, then nodded as he saw a puff of smoke erupt from one of the leaf-covered beings. "They are playing a game we call baseball."

Parks frowned, then closed his eyes as his body began shaking. Synya shook her head and looked back at the vine tenders. She too saw smoke erupting from one of the leaf-covered beings. The creature was bent over, peering across the head of a squatting tender. In front of them both, another tender stood holding a heavy stick made of bark. All three of them were facing another tender who was whirling about with his arms. From the gyrating tender flew an object toward the three facing him. The one with the heavy stick swung at the object, but missed. The one squatting behind the one with the stick caught the object, but missed. The one who smoked stood erect and made a gesture with a human hand. "Yer out!"

As the one with a stick threw the piece of bark to the ground, another came to take his place. Synya walked toward the group, followed by Dean and Parks. The smoking one turned at the sound of their footsteps, then motioned for one of the vine tenders to take his place behind the squatting one. He turned toward Synya and the humans and met them a short distance from the play. "It is good to see you, Synya." He turned toward the humans. "It's about time you idiots showed up. What did you do? Take the scenic route?"

Synya ran her tongue over her fangs. "Miklynn, we are here." She held a clawed hand out toward the tenders. "What do you call this?"

The fat one looked back at the players, then smiled around his cigar and turned back. "They are good, are they not? With those claws, Melyeh can put a spin and dip on that gob of dried sap I do not believe myself." He looked at the two other humans and pointed at the players with his thumb. "I had to do something to kill time waiting for you two."

The one called Parks studied the players, then looked back at the fat one. "The team have a name?"

The fat one nodded. "The Miklynn Fireballs. First team of the Endless Trail League." He then faced Synya. "We all speak the language of the vine people." He turned back to Parks. "The tenders of the other vines will learn of this game, for the Fireballs will teach it to them. Is this hard to understand?"

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Parks sighed and turned toward Synya. "The fat one will make things clear to us in his own manner, and at the time he chooses."

The fat one grinned, then looked up at the sky. "Synya, I am waiting for the one called Assir to bring back the others." He looked back at the vine-master. "The vine people will not have to leave the Endless Trail."

Synya and the two humans stared at the fat one, but he again returned his glance to the sky. "Ah hah!" He began running away from the vine, motioning with his arm. "Come, Synya. Run, Parks and Dean. Here they come." They ran toward the speck in the sky which rapidly grew to become the huge craft that had taken away the vine-masters. The craft landed on its five legs before Synya and the others reached it. The fat one slowed to a walk as the underside of the craft opened and the vine-masters began disembarking. The fat one looked at the one called Parks. "Just follow my lead. Got me?"

Parks noticed that neither the Fireballs nor their fans were following them. "What lead? Miklynn . . ."

Synya saw the fat one wave his hand impatiently at Parks. She looked back at the craft, and then she saw them: taller, thinner versions of the vine people, but with no fangs and short, stubby growths where their claws should have been. Their pelts were deep gray, thick and shiny. Synya reached out her hand and placed it on the one's shoulder.

"Miklynn, are they . . . the Lost Ones?"

Miklynn nodded as they came into the shade given by the craft. The vine-masters of Synya's kind were chattering with the Lost Ones. Neither of the races was speaking words of comfort or pleasure. A huge, dark human—the one called Assir—separated from the group and approached the fat one. "Red, here they are, and there's no problem with the seismics. This rock has a crush as thick as your head." He swung the pack he was carrying to the ground. "The stuff you wanted is in there."

Miklynn squatted before the pack, opened its flap, and peered inside. Closing the flap, he stood and shouted. "Still your mouths!" The fat one turned to the one called Assir. "They all talk the vine-people lingo? This side's?"

Assir nodded. "We adapted all of them. Each speaks the language of the other."

The fat one nodded once, then turned back to the group. "Silence!" When all was quiet, the fat one looked over their faces, then he spoke. "The one called Gaum made a terrible mistake." A few of the vine-masters spoke in hushed whispers, then fell silent again. "This place you all call the Endless Trail needs no changes. It shall be as it has always been. We will leave—"

Parks grabbed Miklynn's arm and swung the fat one around. "What in the hell do you think you're doing?"

The fat one pulled himself free. "Try that again, Parks, and I'll tie you into a big knot."

"Haven't we screwed around with these people's minds enough, Red? Why did you tell them—"

The fat one held out a hand, palm toward the one called Parks. "Now, you shut your mouth. I'm going to need you in a minute, but you won't be much use to me with your teeth knocked down your throat. The fat one looked from Parks to the ones called Dean and Assir. "Look, do you dirt brains want to spend the next six to eight years farming this rock, or do you want to get on with our own thing?"

Assir pursed his lips, then cocked his head to one side. "Do these ears of mine hear correctly that Red Miklynn is going to throw a farming job? They'll toss you out of the Corps so fast

that—"

"No one is throwing anything, Assir." The fat one looked back at the restless vine-masters. "I must consult with my companions. Please understand and accept my apologies."

He turned toward Assir. "Okay, craphead, you're the science officer. You ever seen a planet in more perfect ecological balance than this one?"

"No, but—"

The fat one turned toward Parks. "Is the population healthy, happy?"

"As far as I know, but—"

The fat one looked at the one called Dean. "Tell me the vine people's word for crime, or their words for war, rape, theft, or government screwups."

Dean shrugged. "They don't have equivalent—"

"They don't have them, dirtbrain, because they don't need them." The fat one looked down at the ground, then glanced at the faces surrounding him. "This rock doesn't need terraforming; Earth should be in such good shape. Any damned fool can see that."

The one called Parks laughed, then nodded his head at the fat one. "Go ahead, Red. Do it." He laughed again. Assir and Dean both looked at Parks and began talking at the same time.

Parks laughed to himself for a moment, then turned to face Assir and Dean. "Red's getting us out of the job. We're done. Finished." Parks nodded as Assir opened his mouth to speak. "Oh, there will be a fuss, but I imagine that Red can put up a good argument that this rock doesn't come under the regulations. The population is sapient, with both a spoken and a written language. Remember those signs on the mounds? And it is a governed society, which places it way outside the Savage Planet Regs. The government may be a sun and a bunch of vines, but it works better than most."

Assir looked at the fat one. "Red, the Quadrant has big credits tied up in this project. Big enough credits that your argument won't hold enough water to make a teardrop. Nothing's going to stop those eight-hundred thrusters that are on their way here."

The fat one rubbed his chin. "Maybe. But, Assir, I have a hunch that once you examine that seismic data again, you'll find that the crust on this rock is a little less stable than those thrusters will need to bring this planet up to speed in only six or seven years. It'll probably take, say, fifteen or twenty years."

Assir grimaced at the fat one. "So I'll fake it. There are a few ancient faults that I can doctor up." He nodded. "And that will make the project a net loss, so . . ."

The fat one folded his arms. "So, once we get back upstairs, we might as well reassign those thrusters to other farming operations." He looked around at the faces once more. "Are we all straight?" The ones called Dean, Assir, and Parks nodded. The fat one turned and faced the group of vine-masters. "It is as I have said. Gaum made a mistake. We will leave, and things will be as they have been."

One of the vine-masters stepped toward the fat one. It was Morah, and his eyes were wild, his claws extended. "You come here . . . show us our god is false! You show us the Trail to be a circle? You destroy Kadnu, and now you will leave and things will be as they have been?" A low roar erupted from the vine-masters, and they started moving toward the humans.

The fat one looked over his shoulder. "Parks. It's time."

Parks walked forward, stopped, and held up his hands.

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"Silence!" The roar lowered to a grumble. "I want silence!" And there was silence. Parks lowered his hands, then continued in a soft voice.

"We have not destroyed your god. His light shines all around you. Ashah and the other vines of the clawed vine people still follow Kadnu, and the vines still feed you, shelter you, and protect you against the heat and the ice. Still the vines of the gray vine people spring from the soil, and the god remains at your backs, melting the ice, serving you as it has always done. Still you die and join your vines, becoming parts of them, each vine people serving their Lost Ones, who in turn serve them. We have not destroyed your god."

Parks looked down for a moment, then he turned and looked at the fat one. He frowned for an instant, then smiled and shook his head as he looked back at the vine-masters.

"Think of the Endless Trail. We have not shown you the Trail to be false, for what is more endless than a circle?" Parks pointed toward Ashah. "At the feeding end of this vine is a structure that we have brought to you. It looks as if it were a huge shelter with no doorways. All of you will travel the length of Ashah to see this thing. Turn it over and it will become what is called a boat. It will float on water. First learn to build boats, then move along the ice, always keeping Kadnu to your left, past the land of the last vine, and there you will find the waters that will bring you to the world of the gray vine people.

"You will travel that world, always keeping Kadnu to your left, until you again reach waters. These waters will bring you again to this world. We have not shown the Trail to be false; we have proven it to be true. And you shall prove this to yourselves. We have not destroyed your god; we have shown him to be real by carrying you to a place where you could see it and watch its face."

Morah lowered his arms and shook his mane. "These things that we have been shown . . . that god is a ball . . . of burning air . . ."

A strange look came into the face of the one called Parks. It was a look of pain, yet of anger. "Your god gives you everything you have. It has served you and will never fail you. Do you demand that your god also be not real?" Parks looked at the faces of all the vine-masters from both sides of the Endless Trail. His voice became very quiet. "Your god will serve you, if you do not demand too much from it. To be real, yet not real, is too much."

Synya sat in the shade of her shelter, puffing on one of the smoke sticks. The fat one had left her a box of them. She savored the bittersweet taste of the smoke, then looked away from the practice session of the Miklynn Fireballs. The vine-masters had been gone a long time—long enough for them to have put Kadnu to their left and begun the journey. They had lingered long enough to study and learn the game the Fireballs played, but the fat one and his craft had left long before the vine-masters had learned the game.

Synya looked down at the second box the fat one had given her. It was of green metal with rounded corners. When he gave her the second box, the fat one explained its use. "Synya, we and the vine-masters have made a decision for an entire world. None of us knows if this will be the right decision for all time." The fat one had opened the box as the ones called

Parks and Dean looked on. Inside, the box was filled with a silver plate. From out of the plate extended a sliver of black. "If ever the vine-masters change their minds, Synya, all you need to do is to move the sliver of black. It will send out a call, and someone will answer it. If you want the things that we can bring you, all you must do is move the black sliver."

Synya opened the box and looked at the black sliver. The fat one had said that the box would last for endless growths. Some vine-master thousands of growths in the future would still be able to send out the call, bring back the humans, and turn the Endless Trail into a farm world. She lifted the object the one called Dean had given her after the fat one had returned to the craft. The object was also of metal, but it was ribbed at its thick end and formed a flat blade at the tip of the narrow shaft that extended from the ribbed end. Dean had spoken as the one called Parks looked on.

"Synya, the box the fat one gave you is very rugged, and it will last forever." Then he had given her the object. "But you must be careful not to take this—it is called a screw-driver—and insert it into those two slots and twist the slots like this." He had demonstrated. "If you do that, Synya, the insides of the box will be exposed and can be damaged. If that should happen, the box will no longer be able to send out the call."

Synya inserted the blade into one of the two slots and thought of the one called Parks as she turned the screwdriver. What had he said in the yodel to Dean as Dean went back to the craft? The yodel had sounded like this: "I can't be certain, Dean, but I think you have started the first screwdriver fetish in human history."

Parks had turned to her. "Synya, I am still pained at the death of Volyan."

She had answered. "He is one with Ashah. Do not grieve. Have not you yourself proven this to us?"

As Synya removed the second screw from the box, she remembered the look on the sign-reader's face. "We have proven that." He had paused for a short moment, then looked back at the craft. "I must go now."

Synya had heard the pain. "Sign-reader. Your god is dead, but mine is indestructible. Share Kadnu with us."

The one called Parks had smiled. Synya thought of his answer as she lifted the face-plate from the box. "I wish that I could, Synya." He had looked at Kadnu, the sight of the god washing his face. "But I have seen too much, experienced too much." He had looked at her as he stood to leave. "Besides, who would take care of the fat one?" Then he had left.

Synya moved the box out into Kadnu's light, better to see the things behind the silver plate. The things were coated with happy colors and were made of fine threads and dots of gold.

"Vine-master?"

Synya looked up to see one of the middle children who had wandered away from the baseball practice. "Yes? Your name?"

"I am called Chiveh, vine-master." The child held out a clawed hand toward the box. "Could you tell me what is in there? It is so pretty."

Synya thought for a moment, then held the box out toward the child.

"Reach in and pull out a handful, Chiveh, and we shall see."



# THE LETTERS PAGE

Dear Sirs,

Thank you for sending me the premiere issue of Harsh Mistress, SFA. Here is my check for \$20.00. If it does not cover airmail postage as well as four issues starting with #2, please let me know.

I've been away from the United States for a while. Even before I left I'd ruefully said goodbye to SF. Then I saw Harsh Mistress listed in my sisters Writers Digest (the line from the Cruel Sea is what came to mind when I read your title) and hope stirred. I wrote, I received, I rejoiced!

I very much look forward to receiving Harsh Mistress, SFA issues from 2 to infinity.

Peace et Bonum,  
Robin Rader  
Zambia

Dear Warren,

Thanks for the great phone call. You're a kick to talk with—it made my day. And Harsh Mistress, #2 is a thing of beauty. I'm so proud you'd think it was my magazine. Keep up the wonderful work. We all need this kind of quality magazine to add to the existing markets.

Take care.

Gene Kokayko  
Cambria California

Dear Warren:

I have just received my copy of Harsh Mistress and was most impressed with it. The cover art, in particular, was exceptional. Keep up the good work.

Arthur Zirul  
Fairview, New Jersey

Dear Warren,

Issue #2 of your magazine looks Great! I enjoyed the stories, especially "The Prize".

Milton E. Wheeler, Jr.  
Des Moines, Iowa

Dear Mr. Lapine

Recently I came across a copy of Harsh Mistress in the local bookstore and was impressed with the fiction therein. Reading through the editorial I was surprised that people were upset about the name of your magazine. It is astounding that readers would not see the connection between Harsh Mistress and the novel The Moon is a Harsh Mistress. What were people thinking, that your magazine was an S&M magazine?

Randal Doering  
San Francisco, CA

—That's exactly what people were thinking. I received some very straying correspondences over the last year.

Dear Editors,

I've read that you are considering renaming Harsh Mistress. Firstly, I love the name and presume you are named after Robert Heinlein's excellent work. I'm just re-reading that book for the umteenth time. But, Sigh, I suspect I know the reason for your re-naming. I have submitted stories to you and received personal rejections, though none of those stories are currently in your pile. I thank you for those personal rejections. I would like to suggest the name "Why Not" for Wyoming Knott from the book. It has a nice science fiction ring to it and still relates to Bob Heinlein's book.

Thank you for your time. And Please keep up the good work.

Ted Butler  
Kent Washington

Dear Sirs;

Although I had read about Harsh Mistress in Locus, I did not have a chance to purchase a copy of the magazine until I saw issue #2 at the newsstand the other day. I saw that you were planning on changing the name of the magazine (A good idea, in my opinion), and thought I would toss out some ideas. I like the idea of selecting a name that will tie the magazine to writers of earlier years, and imagine such was picked because you desired to evoke their memories in the types of stories you selected.

Thus:

Beyond This Planet  
Expanding Universe  
Songs Of Earth  
Time For The Stars  
Distant Suns

Good Luck

Steven H. Silver  
Bloomington, Indiana

Dear Warren,

Issue two of Harsh Mistress looks great, and it's good to be able to add your name to my list of publications. Thanks for hanging in there to keep the magazine going.

Denise Lopes Heald  
Carson City Nevada

—as you can probably tell from this small sample, we received a lot of letters with differing opinions as to whether or not we should change our name.



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